DOCUMENT RESUME

ED 195 824 CE 027 566

AUTHOR Krumboltz, John D.; And Others
TITLE The Effect of Alternative Career Decision-Making Strategies on the Quality of Resulting Decisions. Final Report.
INSTITUTION Stanford Univ., Calif. School of Education.
SPONS AGENCY Office of Education (DHEW), Washington, D.C.
PUB DATE Aug 79
GRANT G007605241
NOTE 495p.

EDRS PRICE MF02/PC20 Plus Postage.
DESCRIPTORS *Career Choice; Career Development; Career Education; Career Planning; College Students; Community Colleges; Correlation; *Decision Making; Decision Making Skills; Evaluation; *Participant Satisfaction; Questionnaires; Two Year Colleges; *Values
IDENTIFIERS *Decision Quality; *Rational Decision Making

ABSTRACT

A project studied whether methods used to make career decisions affect their outcomes. Part A describes the correlational study to discover how thoughts and actions of community college students related to their satisfaction with outcomes of their decisions. It focuses on the administration to 255 community college students of a Decision-Making Questionnaire (DMQ) to measure actions and thoughts representing five different decision-making styles: rational, impulsive, intuitive, dependent, and fatalistic. Summaries are presented of decision-making behavior associated most highly with ratings of decision outcome satisfaction, decision importance, and decision confidence. Part B reports the experimental study to discover whether teaching a systematic "rational" procedure for making decisions would improve the "quality" of the resulting decisions. (A good decision is one yielding consequences consistent with the decider's values.) It describes development and use of the Career Decision Simulation (CDS), a standardized procedure for assessing career decision quality through use of an objective, numerical scoring system and providing data on a person's decision-making style. Among findings was that training in rational decision making was not as effective as might be desired. Further research suggestions for this and the correlational study are discussed. Appendixes, amounting to approximately one-half of the report, include the DMQ, DMQ factor analyses, CDS administrator's manual, and curriculum and instructor's guide for teaching rational decision-making and interviewing skills. (YLB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED195824

FINAL REPORT

THE EFFECT OF ALTERNATIVE CAREER DECISION-MAKING STRATEGIES ON THE QUALITY OF RESULTING DECISIONS

John D. Krumboltz, Principal Investigator
Dale S. Scherba
Daniel A. Hamel
Lynda Mitchell
Stephanie Rude
Richard Kinnier

School of Education
Stanford University
Stanford, California

August 1979

U.S. Office of Education
Grant No. G007605241

CE 027 566

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

John D. Krumboltz

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

TABLE OF CONTENTS

Page

Acknowledgments i

Abstract iii

Preface vii

PART A - CORRELATIONAL STUDY: THE RELATIONSHIP OF DECISION-MAKING STYLE TO DECISION SATISFACTION

Chapter 1A - Introduction and Review of the Literature 1

Problem 1

Cognitive Styles 3

Decision-Making Strategies 9

Chapter 2A - Method 22

Instrumentation 22

Subjects 23

Field Testing the Decision-Making Questionnaire 28

Construct Validation of the Decision Style Items 29

Procedures 30

Chapter 3A - Results 32

Relation of Decision Style to Decision Satisfaction, Importance and Confidence 32

Immediate Decision Satisfaction 38

Current (Delayed) Decision Satisfaction 39

Decision Importance 40

Decision Confidence 41

Relation of Individual Thoughts and Actions to Decision Satisfaction, Importance, and Confidence 43

Immediate Decision Satisfaction 44

Job Decision 44

Movie Decision 54

College Decision 55

Deciding on an Expensive Purchase 57

Deciding on a Class 58

Comparison of Males and Females 59

Current (Delayed) Decision Satisfaction 60
Job Decision 60
Movie Decision 61
Deciding on a College 63
Purchase Decision 64
Elective Class Decision 65
Comparison of Males and Females 66
Decision Importance 67
Job Decision 67
Movie Decision 69
College Decision 70
Purchase Decision 72
Elective Class Decision 75
Comparison of Males and Females 77
Decision Confidence 79
Job Decision 79
Movie Decision 81
College Decision 83
Purchase Decision 85
Elective Class Decision 86
Comparison of Males and Females 88

Consistency in Decision-Making Behavior 89

Correlations Among Decision Style Scores Across Decision Situations 90

Factor Analysis of Decision Styles Across Decision Situations 92

Factor Analysis of Decision Styles Within Decision Situations 93

Relation of Information Seeking to Decision Satisfaction, Importance and Confidence 98

Sex Differences in Decision Styles 103

Age and Decision Styles 107

Intercorrelations of Ratings of Satisfaction, Importance and Confidence 112

Chapter 4A - Summary, Limitations, Implications, and Directions for Future Research 113
  Summary 113
  Limitations 121
  Implications 125
  Directions for Future Research 129

PART B - EXPERIMENTAL STUDY: THE EFFECT OF TEACHING A SYSTEMATIC DECISION-MAKING PROCEDURE ON DECISION-MAKING ABILITY

Chapter 1B - The Problem 133
  Assessing Career Decision Making 137
  Research on Educational Simulations 141
  Some Attempts to Simulate Career Decision Making 148
Chapter 2B - Development of the Career Decision Simulation (CDS) 159
  Administrator's Manual (Appendix B) 166
Chapter 3B - Methodology 171
  Sample 171
  Treatment 172
    Experimental group curriculum 172
    Control group curriculum 174
  Criterion Measures 175
  Procedure 177
Chapter 4B - Results and Discussion 178
  The Effect of Training on Knowledge of Decision-Making Procedures 178
  The Effect of Trainong on the Quality of Simulated Career Decisions 184
  Prior Decision Making Style and Treatment Outcomes . . . 190
    Do Rational People Make Better Decisions? 193
    What Predispositions Are Associated With Successful Decision Making? 193
    Who Benefits Most (And Least) From Rational Training? 201
    What Predispositions are Associated with Knowledge about Decision Making? 211

Confidence in Decision Making 212
Limitations and Future Research Directions . . 226

Reference Notes 231

Bibliography 232

APPENDIX A 240

Decision-Making Questionnaire 241

Means and Standard Deviations for the Rating Scales of Decision Importance, Confidence, Satisfaction, and the Frequencies of "Yes" and "No" Responses to Individual DMQ Items . . 271

APPENDIX A$_1$

Factor Analysis of Individual Item Scores in the Job, Movie, College, Purchase, and Elective Class Decision Situations . . 280

APPENDIX A$_2$

Factor Analysis of the Five Rational, Five Intuitive, Five Impulsive, Five Fatalistic, and Five Dependent Decision Style Scores Across the Career-Related and Non Career-Related Decision Situations . . 337

APPENDIX B

The Career Decision Simulation (CDS) Administrator's Manual 348

APPENDIX C

Curriculum for Teaching Rational Decision-Making Skills (Experimental Treatment) . . . 366

Instructor's Guide for Decision-Making Training . . . 367

APPENDIX D

Curriculum for Teaching Rational Interviewing Skills (Control Treatment) . . 420

Instructor's Guide to Effective Interviewing Techniques . . 421

APPENDIX E

Administrative Procedures 435

Acknowledgments

A piece of research as large as this requires the efforts of many people besides those whose names appear as co-authors. We wish to acknowledge the contribution of the following individuals:

-- Laurie Duckham-Shoor who worked with us during the first year of the project. Laurie wrote an extensive review of literature on simulation on which we drew for background information in Chapter IB. She also conducted a useful pilot study using a structured interview format.

-- Meg Marnell who also worked with us during the first year of the project. Meg stimulated thoughtful discussion on our conception of a "good decision" and conducted an interview study using a relatively unstructured format.

-- Bruce Peltier who began as a volunteer and became a regular staff member during the data collection phase of the study. Bruce contributed to the construction of the Career Decision Simulation, and coordinated the arrangements for data collection with the three colleges.

-- Henry Borow, Robert Hoppock, Ralph Keller, and Barbara Varenhorst who served as consultants. They met with us at a crucial time during the project and helped us to change the direction in which we were proceeding with our simulation effort. Their frank criticism and helpful suggestions started us in more fruitful directions.

-- William Bendat, Jeff Ferguson, Carol Howard, and Ruth Morales who helped to make the data collection work smoothly at their respective colleges. They coordinated arrangements with instructors, administrators, and students and saw to it that the right people, places and paper came together at the right time.

-- Ruth Bergman who served as secretary to the project and typed the final report. Ruth worked cheerfully and efficiently meeting deadlines that sometimes seemed impossible.

Behind these people stand many others who supplied needed services and products. To all we express our gratitude.

Abstract

The basic purpose of the project was to discover whether the methods people use to make career decisions affect the outcomes of those decisions. Two major studies were conducted: Part A, a correlational study; and Part B, an experimental study.

Part A: The purpose of the correlational study was to discover how the thoughts and actions of community college students related to their satisfaction with the outcomes of their decisions.

A Decision-Making Questionnaire (DMQ) was developed to measure actions and thoughts which represented five different decision-making styles: Rational, Impulsive, Intuitive, Dependent, and Fatalistic. Style inferences were derived from self-reports of the way in which five previous decisions were made, three career-related (choosing a job, a college, and an elective class) and two decisions which were not career-related (choosing a movie and a major purchase). Subjects were also asked to rate on a 10-point scale (1) the importance of each decision, (2) their confidence in the correctness of the decision prior to experiencing the outcome, (3) their decision satisfaction soon after experiencing the outcome, (4) their current decision satisfaction. The DMQ was administered to 255 students in three community colleges.

Results of the major data analyses tended to support the following conclusions:

1. In each of the five decision situations, factor analyses identified four factors among the items which corresponded to the original Intuitive, Impulsive, Fatalistic, and Dependent styles. The Rational style items formed two or three factors in the decision situations rather than the original six sub-steps.

2. A consistent pattern of correlations was not found since no composite style of decision-making behavior or individual thought or action correlated significantly (positively or negatively) with the ratings of decision satisfaction, importance, and confidence across all decision situations. The magnitude of the correlation coefficients varied with the individual decision situation and was not consistent for either the career or non-career decision situations. However, the following thoughts and actions showed the strongest degrees of correlation with the four ratings at least twice for males or females in the five decision situations:

Strongest Positive Associations with immediate and current (delayed) decision satisfaction

- Comparing alternatives to obtain the most desired benefits
- Feeling a strong sense of assurance that the choice was right
- Obtaining different kinds of information about alternatives

- An immediate sense of knowing the choice was right
- Studying the alternatives(s) carefully
- Planning periods of time to work on the decision
- Making a list of desired benefits

Strongest Negative Associations with immediate and current (delayed) decision satisfaction

- Making a fast decision without thinking much about it
- Choosing because another person made that choice

Strongest Positive Associations with decision importance

- Choosing the alternative because it would help him/her achieve a goal
- Thinking about why this decision was important to make
- Thinking about what he/she might be giving up immediately
- Determining what benefits he/she desired
- Obtaining different kinds of information about the alternatives
- Determining how well each alternative would give him/her what he/she wanted
- Eliminating alternatives by comparing alternatives
- Comparing alternatives to find out which one would provide the most desired benefits
- Feeling an immediate sense of knowing the choice was right
- Good gut feelings about the choice

Strongest Negative Associations with decision importance

- Waiting for an alternative to come along
- Making a fast decision without thinking much about it
- Choosing what was available and hoping it would work out

Strongest Positive Associations with decision confidence

- Feeling an immediate sense of knowing the choice was right
- Choosing an alternative because it would help him/her achieve a goal
- Comparing alternatives to find out which one would provide the most desired benefits

- Obtaining different kinds of information about the alternatives
- Studying the alternatives carefully

Strongest Negative Associations with decision confidence

- Making a decision based on a momentary impulse
- Making a spur of the moment decision
- Choosing an alternative because another person had chosen it
- Choosing an alternative and hoping it would work out

Part B: The major purpose of the experimental study was to discover whether teaching a systematic "rational" procedure for making decisions would improve the "quality" of the resulting decisions. The goodness of a decision was defined as follows: A good decision is one which yields consequences consistent with the values of the decider.

To measure the quality of decisions the Career Decision Simulation (CDS) was devised. On the CDS subjects are asked to pick one of 12 fictitious occupations as best for them. But first they were asked to specify what values were important to them There were 1680 possible ways for them to specify their values, and the CDS was constructed in such a way that for each possible value configuration the rank order of fictitious jobs fitting that configuration was known. The task of the subjects was to select from among 339 bits of "occupational" information on cards and audiotapes until they were ready to pick an "occupation" that would satisfy them. Since the experimenters knew what values the subjects reported, they could tell subjects how "good" their chosen fictitious occupation was for them -- ranging from best of 12 to worst of 12.

Subjects were the same community college students who took the DMQ in Part A. Half of each class was randomly assigned to a "rational" decision-making experimental treatment group in which 90 minutes of instruction were devoted to teaching a systematic procedure for making decisions. Instruction consisted of a brief outline of the rationale, a demonstration of the suggested procedure, a guided practice exercise in which the class applied the model to choosing a bank in which to open a checking account, and a self-directed mastery experience in which class members applied the model to deciding on a specific work-experience program. The control group received 90 minutes of instruction on interviewing techniques for job-seekers. The same teaching format was used -- explanation, demonstration, guided practice, and a mastery experience. The subjects themselves did not know which treatment was considered experimental and which was control. All subjects received useful instruction, but the purpose of the experiment was to see whether the experimental treatment affected the decision-making abilities of the subjects.

In addition to the CDS, the other major dependent measure was the College Board's Career Decision-Making Skills Assessment Exercise (CDMSAE), a 60-item multiple choice measure of knowledge about good decision-making practices.

Results:

1. The 90-minute training in "rational" decision making had no significant effect on knowledge of decision-making practices as measured by the CDMSAE, although the trend did favor the experimental group.

2. The 90-minute "rational" training yielded markedly better decisions as measured by the CDS for the female groups of all ages and for males under age 21, but the reverse was true for the older males. The resulting second-order interaction approached statistical significance at the .05 level but reached the .06 level only.

3. Subjects who reported more impulsive and intuitive decision styles on the DMQ tended to make "worse" decisions on the CDS after being given the "rational" training.

4. Subjects reporting the use of impulsive, dependent, and fatalistic styles on the DMQ tended to make lower scores on their knowledge of decision-making practices as measured by the CDMSAE.

5. Males identified as intuitive on the DMQ and who received the "rational" training were less confident about their CDS choice of occupation than were the intuitive control group males. However, females did not show the same pattern.

6. Dependent style (as measured by the DMQ) females in the experimental group expressed less confidence about their CDS choice of occupation than those in the control group.

The particular 90-minute training in systematic decision making seemed to have its best effects, slight though they were, on females and younger males and on subjects who were not already strongly predisposed to use alternative decision-making styles.

PREFACE

The purpose of this research is to discover whether alternative approaches to making career decisions actually have any impact upon the quality of the decisions that are made. The development of career decision-making skills is a key component in vocational counseling and in the evolving career education movement. Hoyt (1975a) has stated that one of the basic concept assumptions of career education is "protection of the individual's freedom to choose -- and assistance in making and implementing career decisions." He goes on to say that "career decision-making skills, job-hunting skills, and job-getting skills can be taught to and learned by almost everyone. Individuals can effectively use such skills, once learned, to enhance their career development." Hoyt advocates that all classroom teachers should be involved in helping students acquire decision-making skills, while counseling and guidance personnel should help students in the total career development process, including the making and implementation of career decisions. Among the learner outcomes for career education, he states that individuals be "equipped with career decision-making skills" and "equipped with career decisions based on the widest possible set of data concerning themselves and their educational-vocational opportunities."

Others have stressed the same theme. Talbot (1972) has asserted, "It is imperative that guidance personnel help youth from an early age to develop the capacity to make and execute decisions which have long-lasting effects upon their lives." Similarly, Dunn (1972) has advocated that schools need to help the student acquire "skills in personal goal formation and the assessment of the implications of those goals; and skills in managing one's own personal progress toward those goals."

Helping people to make vocational decisions has been the central focus of the guidance and counseling movement since its inception; but it has been only in recent years that the development of decision-making skills as a goal in its own right has been emphasized. Some of the earliest and most articulate advocates of this point of view have been Gelatt (1962) and Katz (1963). Krumboltz (1966) defined the development of decision-making skills as one of the three major categories of behavioral goals for counseling. In a subsequent article, Krumboltz and Baker (1973) listed eight specific steps in the decision-making process and provided an illustrative case study to show how these steps might be applied. The steps advocated by Krumboltz and Baker, however, were distilled from their own experience and the best wisdom of others that they could find; but the steps were not empirically validated in any way. The development of decision-making skills has been assumed to be a good thing in itself, without reference to whether or not the resulting decisions made by people exercising these skills are in fact any better than those that would have been made without the application of these skills.

The process of making career decisions may appear deceptively simple. After all, a five-year-old child can say,"I want to be a veterinarian." But the actual outcomes--which persons manage to end up in which jobs--result from a long series of decisions based upon many factors and events occurring throughout the course of one's lifetime. According to the social learning theory of career decision making (Krumboltz, 1975), entry into an occupation depends upon an interaction of genetic and environmental factors with learning experiences that result in various "task approach skills" such as the steps in decision-making that people may learn, tendencies to plan ahead, work diligently, or become easily discouraged. The theoretical position outlined a number of testable propositions. For example, it was hypothesized that an individual is more likely to learn the cognitive and performance skills and emotional responses necessary for career planning, self observing, goal setting and information seeking if that individual (1) has been positively reinforced for those responses, (2) has observed real or vicarious models engaged in effective career decision-making strategies, and (3) has access to people and other resources with the necessary information. Factors that would discourage the development of these skills were hypothesized to include such factors as being punished or not reinforced for such behaviors, or observing a real or vicarious model receive punishment and/or little or no reinforcement for attempting to engage in career decision-making activities. All of these propositions, however, presuppose that the components of effective career decision-making skills have been defined and validated. There are indeed several formulations of the sequence of steps to be included in the definition of career decision-making skills, but we have no verification that application of any of the formulations actually results in better decisions.

To validate the assumptions underlying our practices and principles is an urgent need. In speaking about the research efforts in career education, Hoyt (1975b) has stated that "evaluation efforts, while generally yielding positive results, are found only infrequently and, by and large, are lacking in convincing quality. This lack of sound evidence of effectiveness has not seemed to dampen local enthusiasm for career education. It seems appropriate to say that, by and large, career education has been accepted on faith--and that an abundant amount of faith exists."

The Handbook for the Evaluation of Career Education Programs (1974) advocates that objectives be stated in terms of student outcomes and gives as examples, "students will be able to demonstrate generally useful decision-making skills" and "students will demonstrate increased competency in career decision-making skills." But again we are handicapped by not being quite clear as to what exactly those skills are. Even if we did have a specification of the skills, we do not yet know whether in fact the application of those skills would result in better career decisions.

Research in the area of career decision-making skills has generally involved investigations of the process, not the outcome. For example, much of the research done by Krumboltz and his colleagues (e.g., Krumboltz and Thoresen, 1964; Krumboltz and Schroeder, 1965) has been designed to discover whether various types of counselor interventions--for example, positive reinforcement, modeling, use of simulation materials--have encouraged young people to engage in further exploratory activities. While it is indeed important to discover whether such interventions promote career exploration, it is even more basic to learn whether the use of any of these exploratory decision-making activities actually results in wiser decisions.

Another large body of research literature is derived from Donald Super's theory of career development which relates self-concepts to career decisions (Super, Starishevsky, Matlin, and Jordaan, 1963). Thoresen and Ewart (1975) have pointed out one major problem with this approach: "At best this research does a reasonably good job of telling us what we already know--that self-concepts and work-roles tend to be related. But it does not help us untangle the complex network of causal interactions between self-estimates and occupational feedback that influences career choice and satisfaction." In order to untangle the complex cause and effect relationships it will be necessary to engage in some experimental work in which the independent variables can be controlled.

Another problem concerns the measurement of outcomes. Super and Forrest (1972) have developed an instrument, the Career Development Inventory (CDI), to assess attitudinal and cognitive aspects, but as the authors themselves say, "Until its relationship to a variety of appropriate criteria, and particularly its predictive validity, are more fully understood, the CDI is to be considered a research instrument" (emphasis added). One cannot establish the predictive validity of any instrument unless one has a criterion. We have no criterion for successful career decision making. We need one.

The need to bring education and work closer together has been emphasized by Ferrin and Arberter (1975). They acknowledge that we have tended to pay more attention to process than to outcomes and point to a trend that people now "are beginning to turn their attention not only to the outcomes of the educational process but to the alignment of those outcomes with occupational entry requirements." If skill in making career decisions is indeed important in life, then discovering exactly which components of career decision-making need to be taught would be of crucial importance.

The need to evaluate our basic assumptions in education has been acknowledged by many responsible leaders. For example, T. H. Bell (1974) has stated "We must make special efforts both to improve the quality of career education and to evaluate its effectiveness. Unless we do so, the great initial enthusiasm we have seen will quickly diminish. Promises of career education are attractive, but those promises need to backed up by results." Hoyt (1974) states "The obvious danger with a movement such as career education, which is still young, weak, and undernourished, is one of over-promise and under-delivery... to date, our promises have been much more prominent than our products." After listing some of these promises, he goes on to say, "We have promised all these things because we have faith our career education can, indeed, deliver on each of these promises...yet, the hard truth is that, three years and over $60 millions of expenditures later, we are essentially still asking all of these groups (school districts and interested people) to accept career education on the basis of our faith in this movement."

And why are we so deficient in our evaluation of career education and vocational decision-making ability? In large part because we have no clearcut procedures for evaluating the outcomes of such important educational goals. The goals of vocational counseling and career education are diverse, nebulous, long-range, subjective, and stated in process rather than outcome terms. Hoyt (1975c) has stated, "One of our greatest needs is for instruments appropriate for use in evaluating the effectiveness of career education."

There is no shortage of curriculum guides, lists of behavioral objectives, and suggested activities for implementing career decision-making skills. Just a few of the excellent guides we have seen would include those by Anthony (1971), Gelatt, Varenhorst and Carey (1972), McCaleb (1971), O'Rourke (1975), Sloan (1969), and Yoon (1972). Other useful materials would include Programs and Practices in Life Career Development Processes (1974) produced by the APGA-Impact-ERIC/CAPS Workshop on Life Career Development, Career Education: How to Do It (1974), the Objectives Catalog prepared by Dunn, Steel, Melnotte, Gross, Kroll, and Murphy (1973), the book on Career Guidance prepared by Gysbers, Drier, and Moore (1973), and Occupational Information by Hoppock (1976). These sources provide various conceptualizations of what career decision-making skills are, but none provide any evidence of impact nor any method for determining whether their well-intentioned advice actually improves the quality of resulting decisions.

It is possible that the decision-making strategies used successfully by most people may not necessarily be best for everyone. Individual differences may exist in the degree to which different strategies are effective for different people. Although attempts to identify consistent attribute-treatment interactions have been discouragingly unsuccessful (Cronbach and Snow, 1969), the fact remains that people do develop strong preferences for making decisions in idiosyncratic ways. Perhaps for some people an intuitive decision-making process is superior to a planful "rational" process. Not only might there be individual differences in global decision-making strategy effectiveness, but individuals might

19

also differ in the extent to which various steps in a rational decision-making process might contribute to the effectiveness of their resulting decisions.

Research Approaches to the Problem

Our basic purpose was to investigate the decision-making behaviors and strategies which produced the more desirable outcomes. The problem as stated appears deceptively simple, but a few questions suggest the conceptual difficulties. What is a more desirable outcome? Who is the judge of a more desirable outcome? How long after a decision is made can a judgment be made about the desirability of the outcome? What are the possible strategies or actions for making decisions? How many different strategies are there? Could there be combinations of strategies that would work better than any single strategy? How can we determine which strategy people actually used? Might people use one strategy but report using another one?

Decision-making strategies themselves are constructs invented by social scientists to account for inferred processes in the minds of decision makers. The desirability of decision outcomes is a subjective judgment which varies as a function of the person making the judgment, the definitions and procedures used, the values and criteria applied, and the point in time at which the judgment is made. Our approach to the complex problem took three forms: an interview study, a correlational study, and an experimental study.

Interview Study

In order to acquaint the research staff with the detailed problems that faced community college decision makers (the population of interest in this study), in-depth interviews were arranged with 20 community college students to explore the career decisions they had made and the methods they had used to make these decisions. Each subject was also asked to rate the degree of satisfaction with the outcome of each decision. Ten subjects were interviewed using a structured type of interview, and the other ten were interviewed with an unstructured format. Contradictory results appeared. With the more structured types of interviews, there appeared to be a slight tendency for subjects who used more rational decision-making methods to be more satisfied with outcomes. However, with an unstructured interview format the more rational decision makers appeared slightly less satisfied. However, these trends were based upon very small samples and cannot be considered statistically reliable. The primary purpose of the interviewing was to identify the variables that are considered to be important by community college career decision makers.

Correlational Study

To what extent is there a correlation between the decision making thoughts and actions of subjects and their reported satisfaction with the decision outcome? Does their satisfaction depend upon the type of decision involved? Does it depend upon the amount of time that has elapsed since the decision was made? The Decision Making Questionnaire (DMQ) was constructed to probe five major decisions that community college students had made in recent weeks or months. Three of the decision situations were career-related (choice of a job, a college, and an elective course) and two were non-career related (choice of a movie and a major purchase). Detailed questions were constructed to inquire into the exact thoughts and behaviors used by each person to make each of these decisions. Correlations between each action or thought and reported satisfaction have been computed. The correlational study is reported in detail in Part A of this research report.

Experimental Study

Both the interview study and the correlational study relied upon self-reported satisfaction as a criterion measure, but do decision makers really know whether their decisions produce the best outcome? Might they be deluding themselves about the quality of their own decisions? After all, there is no way of knowing what outcome would have resulted if an alternative decision had been made. The primary purpose of the research has been to discover whether certain actions by decision makers produced an objectively better outcome. Since there was no known method for determining the "objective" quality of a decision, we undertook to construct such a measure ourselves. The major experimental question was whether we could teach a rational decision-making process that would improve the quality of resulting decisions. Subjects were randomly assigned to experimental and control groups. The Career Decision Simulation (CDS) was developed to provide an objective assessment of the quality of simulated career decisions after instruction. Part B of this research report describes the experimental study in detail.

PART A

CORRELATIONAL STUDY: THE RELATIONSHIP OF DECISION-MAKING STYLE TO DECISION SATISFACTION

CHAPTER 1A

INTRODUCTION AND REVIEW OF THE LITERATURE

Chapter 1A

Introduction and Review of the Literature

Problem

Career counselors and guidance personnel are faced with the task of helping people learn to make good career decisions. However, learning to make good decisions is a complex task which may appear deceptively simple. Although numerous curriculum guides and career training programs have been designed to teach decision-making skills, none have provided evidence to show whether the use of those skills leads to satisfying decision outcomes. In fact, little is actually known about what people need to do to arrive at satisfying decision outcomes for different kinds of "real life" decisions (Krumboltz, 1976; Nickerson & Feehrer, 1977; Thoresen & Ewart, 1976).

Vocational research has provided very little information about what people actually do to produce satisfying decision outcomes. Current theories and models of career choice have been criticized for (1) ignoring the influence of antecedent career decision outcomes on the vocational choice process (Unruh, 1975); (2) lacking clear operational definitions for their component parts (Jepsen & Dilley, 1974; Osipow, 1968); (3) assuming that a rational model represents exclusively how people think about career decisions (Baumgardner, 1976, 1977); and (4) failing to be based on descriptive studies of what people do when they make "real life" career decisions (Dinklage, 1968).

It seems that career decision-making is a much more complex process than our current career decision-making models and theories of vocational choice are able to explain or represent. There is a clear need for research on the thoughts and actions that produce satisfying decision outcomes in "real life" decision situations. Knowledge of how these factors affect decision outcomes may help to improve career counseling and guidance practices by determining the personal skills that people need to make "good" career decisions.

Krumboltz (1979) advanced an explanation of how interactions among genetic factors, environmental factors, and learning experiences result in a person's repertoire of "task approach skills." Task approach skills are cognitive and behavioral factors which represent the skills a person brings to a decision situation. They include variables such as work habits, mental sets, perceptual and thought processes, performance standards and values, problem orientations, and emotional responses.

With regard to career decisions, Krumboltz (1979) suggested that there may be a set of task approach skills which would more specifically be called career decision-making skills. These would include skills in value clarifying, goal setting, predicting future events, generating alternatives, information seeking, estimating, reinterpreting past events, eliminating and selecting alternatives, planning, and generalizing (Krumboltz & Baker, 1973). Task approach skills probably affect the outcomes of each specific task, problem or career decision.

It seems evident that individual differences in task approach skills may affect the outcomes of decisions. Yet, there have been only scattered attempts to study how these kinds of cognitive and behavioral factors affect the career decision-making process. Of the research which does exist, studies have focused on variables generally labeled as cognitive styles and cognitive strategies.

Cognitive styles have been defined as distinctive modes of perceiving, remembering, and thinking, or as particular ways of apprehending, storing, transforming, and utilizing information (Kogan, 1971). Cognitive styles represent consistencies in the manner or form of cognition which is distinct from the specific content of cognition (Messick, 1976). Presumably, they act as cognitive heuristics which select, organize, and control the problem solving or decision-making strategies that people use in specific situations (Messick, 1972, 1973). Cognitive strategies have been defined as regularities in problem solving or decision-making behavior which are partly a function of conditions in particular decision situations (Kagan & Kogan, 1970; Messick, 1976).

Cognitive Styles

Bodden (1970) and Bodden and Klein (1972) found significant positive associations (r=.36; r=.30) between a measure of vocational cognitive complexity and appropriate vocational choice. Vocational cognitive complexity was defined as the number of occupational information dimensions that a person employed to make discriminations among 12 occupations. Subjects' ratings were scored for level of vocational complexity. A brief questionnaire was given to assess a subject's vocational choice. Appropriateness of vocational choice was defined as a match between a subject's vocational choice and the vocational choice specified for his/her personality type by Holland's (1966) personality type-work environment classification system. Personality type was determined by an individual's responses to items on Holland's (1966) Vocational Preference Inventory.

Bodden and Klein (1973) found students to be more cognitively complex in their thinking toward disliked rather than liked occupations. They interpreted this finding as a student's need to make finer discriminations in relation to disliked occupations in order to avoid the negative consequences of a wrong choice.

Streufert (1975) found that students who were initially rated high in conceptual level on Hunt's (1971) Paragraph Completion Test tended to be more advanced in their stage of decision-making at the end of a vocational decision-making course than students who were initially rated low in conceptual level. Stage of decision-making was based on Tiedeman's (1961) seven phase vocational decision-making model. Students who were rated high initially on Hunt's (1971) measure of conceptual level were also rated high on a measure of vocational conceptual level. Students who were rated low initially on Hunt's measure of conceptual level were also rated low on the measure of vocational conceptual level.

Results of the previous series of studies suggested that to some extent part of making a "good" vocational choice may involve a person's ability to use a variety of informational constructs for making fine discriminations among occupations. The possession of certain cognitive constructs may play a part in the career decision-making process by orienting a person to categories of relevant information. However, career decisions vary in complexity, and just what cognitive constructs contribute to positive decision outcomes in specific "real life" decision situations remains to be investigated.

Other researchers have studied the relationship of field dependent/field independent cognitive styles to career choice factors. These styles represent perceptual-intellectual orientations along a global/analytical continuum. At the global extreme, represented as field dependence, perceptions are dominated by the most salient attributes of the surrounding field. At the anlytical extreme, represented by field independence, perceptions are relatively independent of the surrounding field, and the field independent person relies more on internal referents. These styles are believed to represent consistent modes of functioning across a wide range of career decision tasks (Goodenough, 1976; Witkin, 1976).

Witkin (1976) reviewed a series of studies in which significant correlations were found between field dependence/field independence and vocational interests and preferences. A consistent finding was that field independent students tended to choose career areas where analytical skills predominated (e.g., physical and biological sciences), while field dependent students tended to prefer careers requiring involvement with people (e.g., social sciences and teaching).

Similar findings occurred with regard to field dependence/independence and student choices of college major. Witkin, Moore, Oltman, Goodenough, Friedman, Owen, and Raskin (1977) conducted a longitudinal study to determine the relationship between field dependence/independence and academic development. The sample consisted of 1422 students who were followed through college to the point at which they received a degree or dropped out of school. Field dependence/independence was assessed by the Group Embedded Figures Test (Witkin, Oltman, Raskin, & Karp, 1971). Students were divided into three categories according to their final majors. The categories were science, education, and a category of others majors, which were thought to have a lower association with either field dependence or field independence, than the science and education majors. Scores for these three groups of majors were compared for mean differences on field dependence/field independence. Significant differences ($p < .05$) were observed for (1) preliminary choice of major at college entry, (2) final choice of major, and (3) graduate school field of specialization. For preliminary choice of major, Group Embedded Figures Test (GEFT) scores of field independence were highest for science majors and lowest for education majors among women, and higher for science majors than "other" majors among men. GEFT scores were highest for science majors and lowest for education majors when the data were analyzed for final choice of college major and graduate school field of specialization.

Although studies have shown consistent relationships between field dependence/independence and differences on career related factors, the relationships have not been very strong. Studies have typically involved very large samples where even the frequently reported small mean differences and low magnitude correlation coefficients have reached significance. The assessment of these styles has not been based on factors which represent differences in cognitive functioning in actual decision-making situations. For example, the fact that engineering majors tend to be more field independent than social science majors does not indicate how this style is represented in the actual decision process leading to the choice of major.

Other researchers have attempted to study how differences in styles of thinking are related to career decisions. Baumgardner and Rappoport (1973) investigated the relationship of analytical and intuitive thinking styles to student choice of college major. A 27-item questionnaire was administered to 500 undergraduates representing the freshman through senior classes and various major areas of study. Analytical items represented thoughts that were based on objectively determined (and often quantified) premises (e.g., "It seems like the best way to gain the financial success I want"), while intuitive items were based on global feelings and judgments (e.g., "At a gut level this is the area I think I should be in"). The sample was broken down according to sex, class, and major area of study.

A factor analysis of the questionnaire statements yielded two analytical factors (I and III) and two intuitive factors (II and IV). Each factor was composed of statements that were highly related in content. Factor I related to well-defined statistical information, expert opinion, and unambiguous subject matter. Factor III related to aptitude test scores, grades, counselor advice, and high school experiences. Factor II was characterized by global feelings and the importance of emotional satisfaction. Factor IV related to positive feelings and identification with faculty. The data analysis showed that the analytic-intuitive dimension was composed of highly consistent but not completely independent factors.

Analysis of the questionnaire items showed that students' career thinking was not represented exclusively by rational processes. Many students showed little concern for objectively determined information and logical-rational premises. The data indicated that personalized goals and feelings became more integrated in student thinking as students progressed through school. Sophomores had significantly higher intuitive scores than freshmen. The intuitive trend continued among "soft" majors (e.g., humanities and social science) across sophomore and senior years, but a shift back to more analytical thinking was noted in the junior and senior years for "hard" majors (e.g., natural sciences, engineering, business). Female students in both "soft" and "hard" majors had slightly more intuitive scores than males in these majors. In general, the students' thinking styles seemed to reflect many of the characteristic demands of their chosen majors.

Since Baumgardner and Rappoport studied thinking styles based on general differences in analytical and intuitive beliefs rather than analytical and intuitive thoughts directly related to how people made specific decisions, it is hard to determine whether analytical-intuitive thinking styles characterized the decision processes students used to choose their majors, or whether thinking styles were themselves the outcomes of experiences in the choice situation. Nevertheless, their study did suggest a cognitive dimension and a methodology for the development of future instruments to measure more directly how different styles of thought are represented in the ways that people make decisions.

Baumgardner and Rappoport suggested that a more precise pattern of a person's thinking might be obtained by determining how the separate analytical and intuitive factors are differentially weighted and integrated. Their work implied that the kind of thinking a person engages in may depend upon a person's beliefs, individual goals, and the task demands of a specific choice situation. The work of Baumgardner and Rappoport lent support to investigations of decision processes within a multidimensional thinking framework. Studies along this line have related to decision-making strategies or decision styles.

Decision-Making Strategies

Another cognitive approach for understanding how people make career decisions is to study the type of strategy the decider uses for arriving at his/her decision. Although this approach has not been studied extensively, several attempts have been made in this direction.

Hilton, Baenninger, and Korn (1962) conducted a study to determine the cognitive processes used in career decision-making. The study involved interviews with groups of undergraduate and graduate students over a period of seven months. The interviewers attempted to determine the cognitive strategies that students engaged in while making their career choices. Hilton et al. (1962) identified the following four types of decision-making strategies:

1. Alteration of planning horizon. This strategy exists in two basic forms. Individuals may choose to increase their perspective on a decision by expanding the number of value considerations which may increase or decrease the number of available alternatives. People may also choose to shorten their planning horizons by narrowing and shortening their scope of considerations, e.g., "worrying about the present and letting the future take care of itself."

2. Alteration of requirements. People using this strategy create requirements to eliminate possible alternatives. The decider selects those alternatives which meet the requirements and discards the others.

3. Selection by elimination. People using this strategy make their choices not by deciding which is the most attractive alternative, but by deciding what are the most unattractive alternatives.

4. Reformulation of alternatives. Hilton (Note 1) mentioned three ways that people can reformulate alternatives to facilitate the decision-making process. These methods include (a) the umbrella approach, where one alternative is broadened in scope or modified in such a way that it incorporates those alternatives that conflict with it; (b) choosing an uncommitting alternative, in which case the individual selects an alternative which is short-term and does not commit him/her to a long-term course of action; (c) adopting a broad, vague plan in order to resolve the dissonance which may occur when the realities of the environment conflict with a person's specific detailed plans and/or self-perceptions.

The strategies described above were those most commonly observed in the interviews conducted by Hilton, et al. (1962) and do not exhaust the logical possibilities for decision-making strategies.

Field (1964) interviewed adolescent subjects and found five strategy approaches to career decision-making. One group of subjects established specific occupational goals early in life and made their educational decisions based on these goals. A second strategy group included people who expressed a desire for a general vocational area but were less specific about their desired occupation than the people in the first group. A third strategy group consisted of those people who were acting for the moment but with a vague goal in mind. A fourth group of people made their decisions based on only one factor which was usually the avoidance of something they believed to be unpleasant (e.g., manual labor). The fifth strategy group included students who were not making plans at all. These students had a fatalistic attitude and were letting the future take care of itself.

Roe and Baruch (1964) interviewed subjects between the ages of 30 and 50 who had recently experienced occupational change and/or retraining. Their subjects seldom mentioned rational decision-making processes. Instead, they generally explained their career decisions as outcomes of fate, chance, and external influences in their lives.

Silber, Coelho, Murphy, Hamburg, Pearlin, and Rosenberg (1961) interviewed fifteen high school seniors who were judged to be competent students. Silber, et al. (1961) analyzed the interview records and found that the students relied on sound rational decision-making behavior when they had to decide which colleges to attend.

Dinklage (1968) conducted a study to describe and classify the different types of strategies that adolescents used to make decisions. Eleventh grade students from three different schools were interviewed about their thoughts and approaches to educational, vocational, and personal decisions. Based on transcripts of the interviews, Dinklage developed eight decision strategy groups: (1) Impulsive - a decision process based on impulse where the decider took the first available alternative; (2) Fatalistic - a strategy where the decider recognizes that a decision needs to be made but leaves the decision up to fate because of the belief that his/her actions do not make a bit of difference; (3) Compliant - the decider complies with someone else's plan for him/her rather than making his/her own decision; (4) Delaying - the strategy used by an individual who recognizes a problem but decides to delay making the decision until a later time; (5) Agonizing - a strategy which describes deciders who spend much time and thought in gathering data and and analyzing alternatives only to be overwhelmed by the data which they have accumulated; (6) Planning - a rational strategy in which the decider has chosen some method(s) or alternative for carrying out a decision so that the outcome will be satisfying: (7) Intuitive - a strategy in which the decider makes a decision based on some internal organization which s/he cannot verbalize but where the decision "feels right"; (8) Paralysis - the strategy used by a person who accepts the responsibility for the decision but is unable to do much about it, ie., the person believes that something can be done but feels helpless and unsure about how to proceed.

The results showed that about one-fourth of all reported decisions were being made by a planning (rational) strategy. Impulsive and compliant strategies each accounted for 18% of the total number of decisions. Approximately 11% fell into the delaying group and another 10% went into the fatalistic category. Agonizing, intuitive, and paralytic approaches were each used about 5% to 6% of the time. About 1/3 of the students did not have a preferred strategy (the same strategy used on all or two out of three of the decisions). This proportion held up regardless of school or sex differences.

Harren (1976) developed an instrument to help college students assess their degree of progress in making career decisions. The Assessment of Career Decision-Making (ACDM-B) contained four sections. Three sections consisted of items which represented the decision stages of Exploration, Crystallization, Choice, Clarification, Induction, Reformation, and Integration which were defined by Tiedeman and O'Hara (1963). Specific stages were assessed in relation to three decision tasks (How I feel about being in college; What I want to study; Where I am heading after college). A fourth section consisted of 21 items designed to measure the Planning, Intuitive, and Dependent decision styles defined by Dinklage (1968). Subjects were asked about their decisions to go to college.

The ACDM-B also contained questions which asked students to rate on scales of 1 (low) to 9 (high) how satisfied they were at this college, how certain they were with their tentative choice of major, how satisfied they were with their tentative choice of major, how certain they were with their tentative choice of an occupation, and how satisfied they were with their tentative choice of an occupation. The ACDM-B was administered to 284 undergraduate students representing freshman through senior class levels.

The main findings indicated that (1) the decision styles were not associated significantly with any of the ratings of satisfaction or certainty, (2) the Planning style was associated most positively with the advanced stages of decision-making while the Intuitive style was associated most positively with the early stages of decision-making, and the Dependent style was not associated consistently with the early or the advanced stages, (3) the majority of students tended to use a Planning style, (4) the percentage of students classified as Planning increased from freshman to senior class levels, while the percentage of students classified as Intuitive and Dependent decreased, (5) the relationships among the decision-styles were low except for a moderate positive association between the dependent and intuitive styles. Harren also reported that an analysis of his data showed no significant differences between men and women for any of the ACDM-B variables.

Harren's ACDM-B seems to have reasonable face validity as a method for studying the relationships between decision styles and other career decision variables. In spite of its utility as a model, there appeared to be some major problems with the design of the ACDM-B. Several of the Planning style items did not refer to how a student decided to go to college. Instead, they seemed to represent decisions which occurred after students had already made their decisions to attend college (e.g., "I chose my electives in high school on the basis of what would help me most in college."). While a key component of the Planning style is the ability to think about the consequences of earlier decisions for later decisions (Harren, 1976), the Planning style did not contain items which referred directly to considerations that people thought about at the time they were deciding to go to college. Although some Planning style items did refer to rational actions, there were not enough items to represent a logical and systematic approach to decision-making. The lack of clearly defined decision processes to which the Planning style items refer makes it unclear what Harren meant by the terms "deliberate" and "logical". The problems discussed above detract significantly from the theoretical strength of the Planning style construct.

Another problem is that the ACDM-B did not assess decision styles in the same decision situations in which it assessed decision stages and the ratings of decision satisfaction and decision certainty. Even the college satisfaction rating referred to satisfaction with a student's choice of his/her college (e.g., "How satisfied are you at this college?") rather than how satisfied students were with their choices to go to college. It seems reasonable to assume that the degree to which people use different decision styles and their ratings of decision satisfaction and certainty may vary across decision situations. A style of decision-making associated most positively with decision satisfaction and certainty for one decision may not be the same style associated most positively with these ratings for a different decision. Associations among measures of decision styles, decision stages, ratings of satisfaction and certainty obtained in relation to the same decisions would provide a more valid picture of the variables which tend to be related most positively and negatively for certain kinds of decisions. Regardless of the design problems in the ACDM-B, it did serve as a model for the construction of other instruments to assess the relationship of decision styles to other decision variables.

Lunneborg (1978) developed a 120-item questionnaire to assess the Planning, Intuitive, and Dependent decision styles. Harren's (1976) descriptions of these styles were used as a guide for item construction although Lunneborg's items referred to general attitudinal preferences for these decision styles rather than to differences in how people made specific career decisions. In three different studies the decision-making questionnaire was administered to a sample of high school students and two samples of college students.

In addition to the questionnaire the first sample of college students was given two other instruments. The first instrument was Harren's ACDM-B to assess progress in the decision stages which corresponded to the tentative choice of major and tentative choice of an occupation. Students also rated their certainty and satisfaction with their tentative choices of major and occupation. The second instrument was the Vocational Rating Scales (VRS) (Barrett & Tinsley, 1977), a measure of vocational self-concept.

Lunneborg found low but significant positive correlation coefficients (1) between the Planning style and the VRS measure of self-concept, (2) between the Planning style and the decision stages of choice and clarification, and (3) between the Dependent style and the ACDM-B decision stages of Exploration, Crystallization, and Clarification. She also found low but significant negative correlation coefficients (1) between the Dependent style and the VRS measure of self-concept, and (2) between the Dependent style and the ACDM-B choice stage of decision-making.

A second sample of college students were administered a revised version of the decision-making questionnaire. Changes were made in the format of certain items so they would be appropriate for students of various age groups. Students also filled out Super's (1970) Work Values Inventory and the ACDM-B ratings of decision certainty and satisfaction for the choice of college, tentative choice of major, and tentative choice of an occupation.

The major findings indicated that (1) the Planning style was positively related to all five ratings of certainty and satisfaction; (2) the Dependent style was negatively related to all five ratings of certainty and satisfaction; (3) the Intuitive style showed no significant positive or negative associations with any of the five ratings of certainty and satisfaction; (4) the Planning style was positively associated with Super's (1970) work values of management, security, and prestige; (5) the Intuitive style showed significant negative associations with the work values of management and achievement; (6) the Dependent style showed significant negative associations with the work values of creativity, management, independence, and intellectual stimulation.

The high school sample was given the revised version of the decision-making questionnaire. Students also took the VRS measure of self-concept, the ACDM-B scales to assess progress in the decision stages related to tentative choice of major and tentative choice of an occupation, and the ACDM-B ratings of decision certainty and satisfaction.

In the high school sample the Planning style showed low but positive associations with the VRS measure of self-concept and with the ACDM-B choice stage of decision-making. The Dependent style showed a moderate negative association with the ACDM-B choice stage. The Intuitive style showed very low positive associations with the VRS measure of self-concept and the ACDM-B choice stage of decision-making.

Lunneborg concluded from her three studies that Planning was the only decision style which should be encouraged as a method for making career decisions. She also concluded that the Intuitive style did not hold much promise as an effective way of making decisions and that the Dependent style should be discouraged. However, her conclusions seem overstated for the following reason. Lunneborg's data did not show the relationships between decision styles which people used to make career decisions and the outcomes of those decisions. Her decision styles were based on items which represented how people would prefer to perform when making decisions, and not how they did perform when they made decisions. General preferences do not represent specific decision processes which people used to make career decisions. Conclusions about which decision style is most effective for various career decisions cannot be determined from Lunneborg's data. Conclusions about the relationship of decision styles to various outcome criteria would be more valid if both styles and outcome criteria were assessed in relation to the same decision situations. Comparison among decision situations would show which style of decision-making was associated most positively and most negatively with various outcome criteria for different career decisions.

In summary, studies in the present survey represented attempts to show how various cognitive factors influenced the career decision-making process. While researchers shared a common assumption that people do make decisions, their studies did not relate decision styles and actions in specific situations to the outcomes of those same decision situations. Theoretically, it would have been more meaningful if researchers had shown how their cognitive factors were represented in specific decision processes (e.g., thoughts, actions, images, heuristics). Associations between specific processes and various outcome criteria (e.g., decision satisfaction) would begin to shed some light on what people do to make "good" career decisions.

The current correlational study was designed to address two major questions: (1) Which specific kind(s) of decision-making behaviors are most highly associated with self-reported outcome satisfaction in different decision situations? (2) To what extent do people tend to show consistency in decision-making behavior across different decision situations?

Specifically, the study investigated the following questions and hypotheses:

1. Which styles of decision-making behaviors are associated most highly with ratings of decision outcome satisfaction, decision importance, and decision confidence in each decision situation?[1]

   1.1 Hypothesis: The Rational decision-making style will be associated most positively with ratings of immediate decision satisfaction in each of the five decision situations.[2]

   1.2 Hypothesis: The Rational decision-making style will be associated most positively with ratings of current (delayed) decision satisfaction in each of the five decision situations.

   1.3 Hypothesis: The Rational decision-making style will be associated most positively with ratings of decision importance in each of the five decision situations.

   1.4 Hypothesis: The Rational style will be associated most positively with ratings of decision confidence in each of the five decision situations.

---

[1] The styles of decision-making are defined in chapter 2, subsection instrumentation.

[2] Statements in the text which refer to more or most positive and more or most negative correlation coefficients, mean coefficients which are the highest positive or negative correlation.

2. How consistent are people in their decision-making behavior across decision situations?

   2.1 Hypothesis: Correlation coefficients between the career related decisions will be more positive than the correlation coefficients between the career-related and non career-related decisions for each style of decision-making behavior.

3. In each decision situation, will subjects who rate their decisions as being highly important investigate more information than subjects who rate their decisions as being lower in importance?

   3.1 Hypothesis: Subjects who rate their decisions as higher in importance will have investigated more information than subjects who rate their decisions as lower in importance.

4. In each decision situation, will subjects who were highly confident in the correctness of their decisions investigate more information than subjects who were less confident?

   4.1 Hypothesis: Subjects who were more highly confident in the correctness of their decisions will have investigated more sources of information than subjects who were less confident.

5. In each decisions situation, will subjects who were highly satisfied with their decision outcomes investigate more information than subjects who were less satisfied?

5.1 Hypothesis: Subjects who were highly satisfied (immediate decision satisfaction) with their decisions will have investigated more sources of information than subjects who were less satisfied.

5.2 Hypothesis: Subjects who were more highly satisfied (current or delayed decision satisfaction) with their decisions will have investigated more sources of information than subjects who were less satisfied.

6. What is the relationship between sex of subjects and decision style?

6.1 Hypothesis: There will be no difference in mean decision style scale scores between males and females in each of the five decision situations.

7. What is the relationship of age to decision-making style?

7.1 Hypothesis: There will be no difference in mean decision style scale scores between subjects of each age category in each decision situation.

8. What are the relationships among the scales of decision importance, decision confidence, immediate decision satisfaction, and current (delayed) decision satisfaction?

8.1 Hypothesis: There will be a positive correlation between (1) decision importance and decision confidence, (2) decision confidence and immediate outcome satisfaction, and (3) immediate and current (delayed) outcome satisfaction in each of the five decision situations.

CHAPTER 2A

METHOD

Chapter 2A

Method

Instrumentation

A Decision-Making Questionnaire (DMQ, Appendix A) was developed to measure actions and thoughts that people used to make five different decisions. Three decisions were career related (choosing a college, choosing an elective class, and choosing a job) and two decisions were not career related (choosing a movie, and choosing an expensive purchase). The DMQ was designed to measure actions and thoughts which represented the following five styles of decision-making:

1. Rational Style. The Rational style consisted of a systematic method of logical steps for making a decision. The steps included (1) Define the Problem, (2) Establish an Action Plan, (3) Clarify Values, (4) Identify Alternatives, (5) Discover Probable Outcomes, (6) Eliminate Alternatives Systematically. They were adapted from a decision-making model conceived originally in a College Board project described by Krumboltz & Hamel (1977).

2. Intuitive Style. People using an Intuitive style based their decisions on a "gut feeling", a sense of "rightness", an image or a general impression about the decision which was often difficult to explain.

3. Dependent Style. People using a Dependent style based their decisions on what other people were doing, what they perceived were other people's expectations, or what someone told them was the right thing to do.

4. Impulsive Style. People using an Impulsive style took the first available alternative without thinking much about it.

5. Fatalistic Style. People using a fatalistic style accepted whatever "reasonable" alternative chance events produced. They based their decisions on a belief that they really had little control over decision outcomes so they left their decisions up to fate.

Decision-making style was a term used to denote a specific kind of decision-making behavior. The intent of the study was not to classify subjects according to one style only but to represent the degrees to which subjects as a group used each of the five kinds of decision-making behavior in five different decision situations.

In each decision situation subjects were asked to rate on a ten point scale (1) the importance of each decision, (2) their confidence in the correctness of their decisions prior to experiencing the outcomes, (3) their decision satisfaction soon after their decisions were made, (4) their current or delayed decision satisfaction at the time they were taking the questionnaire.

Subjects

The sample consisted of 255 subjects, 85 men and 169 women. Subjects were enrolled in career guidance classes at three community colleges, De Anza and Foothill Colleges in Northern California, and Moorpark College in Southern California. One hundred thirty-six subjects were 21-25 years of age, 20 subjects were 26-30 years of age, and 66 subjects were 31 years of age or older. One subject did not indicate sex or age. Subjects varied in terms of their academic and occupational backgrounds.

Subjects were selected according to the following procedures. Initial commitments to participate in the study were obtained from guidance personnel at the three colleges in December, 1975. At Moorpark College, contacts by phone and mail were made to the Dean of Student Personnel in September, 1977. Coordination involved determining which classes would be involved in the study and setting a schedule with each teacher for administering the DMQ. Seven career guidance classes participated in the study during October, 1977. At De Anza College, coordination was provided by a guidance counselor. A presentation of the study was given to the guidance staff prior to obtaining their final commitments to participate in the study. Seven career guidance classes participated in the study during November, 1977. A schedule for administering the DMQ was set with each teacher. At Foothill College, coordination was provided by a guidance counselor who helped select classes and set up a schedule for administering the DMQ. Six career guidance classes participated in the study. In two classes students were required to participate, but four of the teachers announced to their students that participation in the study was voluntary. Therefore, the number of subjects from Foothill was smaller than the number which had been expected.

Derivation of Item Scores and Style Scores

Individual item scores of the DMQ had values of one or two. One represented a "yes" response and two represented a "no" response. Items consisting of two or three parts (e.g., I thought..; I described to someone..; I wrote...) were given scores according to the rules in Table 1.

Table 1

Rules for Assigning a Score to the Two and Three Part Composite Items, Based on 9 Possible Composites of Two Part Items and Twenty-Seven Possible Composites of Three Part Items for "Yes" Responses, "No" Responses, and Missing Data

Scoring Rules

Two Part Composite Items

I. If both parts (I thought, I discussed..) have missing values, assign the composite item a score of 1.5.

II. If Part 1 (I thought...) has a missing value but Part 2 (I discussed...) has a value, assign Part 1 the same value as Part 2.

III. If Part 1 (I thought...) has a value but Part 2 (I discussed...) has a missing value, score Part 2 as a "No" response.

IV. If Part 1 (I thought...) and Part 2 (I discussed...) do not have missing values, the composite item score is the average of the Part 1 and Part 2 scores.

Three Part Composite Items

I. If all 3 parts (I thought..; I discussed..; I wrote..) having missing values, assign the composite item a score of 1.5.

II. If Part 1 (I thought..) has a missing value and Part 2 (I discussed..) or Part 3 (I wrote..) also has a missing value, assign Part 1 (I thought..) the value of the Part (1or2) which is not missing, and score Part 2 or 3 which is missing as a "No" response.

III. If Part 1 (I thought..) has a value but Part 2 (I described..) or Part 3 (I wrote..) have missing values, score Part 2 or Part 3 as "No" responses.

IV. If Part 1 (I thought..) has a missing value but Part 2 (I described..) and Part 3 (I wrote..) have the same value, give Part 1 (I thought..) the same value as Parts 2 and 3.

V. If Part 1 (I thought..) has a missing value but Part 2 I described..) and Part 3 (I wrote..) have different values, score Part 1 (I thought..) as a "Yes" response.

VI. If Part 1 (I thought..), Part 2 (I discussed..), and Part 3 (I wrote..) do not have missing values, the composite item score is the average of the scorer for Parts 1, 2, and 3.

Possible Composite Items

Part 1	Part 2	Part 3	Score
Yes	Yes		1.00
Yes	No		1.50
Yes	Missing		1.50
No	Yes		1.50
No	No		2.00
No	Missing		2.00
Missing	Yes		1.00
Missing	No		2.00
Missing	Missing		1.50
Yes	Yes	Yes	1.00
Yes	Yes	No	1.33
Yes	Yes	Missing	1.33
Yes	No	Yes	1.33
Yes	No	No	1.67
Yes	No	Missing	1.67
Yes	Missing	Yes	1.33
Yes	Missing	No	1.67
Yes	Missing	Missing	1.67
No	Yes	Yes	1.33
No	Yes	No	1.67
No	Yes	Missing	1.67
No	No	Yes	1.67
No	No	No	2.00
No	No	Missing	2.00
No	Missing	Yes	1.67
No	Missing	No	2.00
No	Missing	Missing	2.00
Missing	Yes	Yes	1.00
Missing	Yes	No	1.33
Missing	Yes	Missing	1.33
Missing	No	Yes	1.33
Missing	No	No	2.00
Missing	No	Missing	2.00
Missing	Missing	Yes	1.33
Missing	Missing	No	2.00
Missing	Missing	Missing	1.50

The scoring rules were devised to accomplish three purposes. First, to serve as a method for scoring the 36 possible combinations of two and three part items based on yes responses, no responses, and missing data. Second, to increase variance by making the multiple part items more continuous. Third, to minimize the number of cases which might be thrown out completely from all analyses by the default options of the computer programs due to missing data for some cases.

The Intuitive. Impulsive, Fatalistic, and Dependent style raw scores ranged in value from one to six in each decision situation. The Rational style raw scores varied in range across decision situations; one to twenty-eight in the job decision, one to twenty in the movie decision, one to twenty-six in the college decision, one to twenty-six in the purchase decision, and one to thirty-four in the class decision. Scores for each composite decision style were based on an average of the individual item scores which represented that style. The averaged scores placed each decision style on the same scale, with a minimum value of one and a maximum value of two. Table 2 in chapter 3 gives the means and standard deviations of each decision style in each decision situation for males and females.

Rating scores for decision importance, decision confidence, immediate decision satisfaction, and current (delayed) decision satisfaction ranged in value between zero and ten. Zero represented considering the decision as not very important, or not being confident, or not being satisfied at all. Ten was very important, or very confident, or very satisfied.

Field Testing the Decision-Making Questionnaire

During the summer of 1977, a first edition DMQ was submitted to a panel of six judges. Each judge classified the 126 items independently into one of the following categories: The six steps of the Rational decision style, or the Intuitive, Impulsive, Dependent, and Fatalistic decision styles. Percentage of agreement scores were calculated among the judges for each item. In most cases all six judges responded to the items, but for some items only five judges responded. Seventy-seven DMQ items were classified with 100% agreement with the author's intended category, 27 items with 83% agreement scores, 13 items with 67% agreement scores, four items with 53% agreement scores, three items with 50% agreement scores, and two items with 40% agreement scores. Percentage of agreement scores less than or equal to 67% were for Rational style items where there was disagreement among judges as to which steps these items represented best. These items were rewritten so they would indicate more clearly and concretely the Rational style substep they were supposed to represent.

The first edition DMQ was administered to two community college career guidance classes in the summer of 1977. Frequencies of yes and no responses were calculated for the individual items. Changes were made in the format and phrasing of items that differed substantially from a 50% yes, 50% no split. The item changes represented an attempt to increase variance for these items. It was also done to maximize as much as possible the phi correlation coefficients among the individual DMQ item scores and the point-biserial correlation coefficients between the DMQ item scores and the four rating scale scores.

Construct Validation of the Decision Style Items

In the present study a factor analysis (varimax rotation) was performed on the individual item scores in each of the five decision situations prior to any data analyses involving the composite decision styles. Factor analytic procedures were used only as a method for grouping clusters of items and were not used to generate factor scores for subsequent analyses. They were used to determine how well the factor structures in each decision situation corresponded to the original six steps of the Rational style, and to the four categories of the Intuitive, Impulsive, Fatalistic, and Dependent styles. A sample of 255 subjects provided over eight times as many subjects as variables. A sample of this size seemed sufficient to provide stable groupings in each decision situation. Some of the DMQ items were dichotomous so the splits on these items were studied to determine whether certain correlation coefficients were greatly underestimated. Most items with extreme splits (yes or no responses less than or equal to 10% or greater than or equal to 90%) occurred for Rational style items with the item stem I wrote... (see Appendix A, Decision-Making Questionnaire for the frequencies of yes and no responses for each item). The positive phi coefficient between two dichotomous variables is restricted by the extent to which the percentage of yes responses on one variable is different from the percentage of persons marking yes on the other variable. The ceiling on negative phi coefficients is proportional to the extent to which the yes value on one item is different from the no value on another item and vice versa (Nunnally, 1978).

However, since the dichotomous items on the DMQ were not dichotomous representations of continuous variables, the phi coefficients did represent the relative relationships among the self-reported thoughts and actions that people used to make decisions.

Results of the factor analyses (Appendix A_1) supported the five apriori categories of decision style in each of the five decision situations. In some decision situations items from different styles were not totally independent of each other but the degrees of association were generally low. However, the six substep categories of the Rational style were not preserved. Instead, two or three main Rational Style factors emerged in each decision situation. For example, in the college decision situation the first Rational factor consisted of items which referred to Define the problem, Clarify Values, and planning to make the decision. A second Rational factor was comprised of items which represented Identify Alternatives, gathering information about the alternatives and Eliminate Alternatives Systematically based on a comparison of the obtained information. In general, the results of the factor analyses showed that items of each style had loadings on particular factors which were substantially higher than items of the other four decision styles. The results tended to support the construct validity of the five decision style categories in each decision situation.

Procedures

A schedule for administration of the DMQ was arranged with each instructor at each college. The subjects were told that we were studying the ways that people made decisions and the DMQ would ask them about how they made five previous decisions. Subjects were also given a standardized set of instructions which read as follows: "On the following pages you will find questions about five decisions you have made. You will be asked to recall what you did, said, or thought before and after making these decisions. Answer frankly as best you can. Do not skip any questions." The subjects were given up to two hours to complete the questionnaire although the majority of subjects completed it within twenty to forty-five minutes.

After each administration of the questionnaire, the data were checked for errors and labeled according to college, instructor, date of administration, and research assistant.

CHAPTER 3A

RESULTS

Chapter 3A

Results

Relation of Decision Style to Decision Satisfaction, Importance and Confidence

Research question 1 concerned the style(s) of decision-making which were associated most highly with subjects' self-reports of (1) immediate decision satisfaction, (2) current (delayed) decision satisfaction, (3) decision importance, and (4) decision confidence. Associations between the five decision styles and the above ratings were studied for three career-related decisions (choosing a job, college, and elective class) and two decisions which were not career-related (choosing a movie and a major purchase). It was hypothesized that the Rational decision style would be associated most positively with ratings of immediate decision satisfaction, with ratings of current (delayed) decision satisfaction, with ratings of decision importance, and with ratings of decision confidence in each of five decision situations (Hypotheses 1.1 to 1.4). Table 2 shows the Pearson Product-Moment correlation coefficients between the above four ratings and the Rational, Intuitive, Impulsive, Fatalistic, and Dependent decision style scores for males and females in each decision situation. Correlation coefficients between the rating scale scores and the decision style scores were often equivalent in magnitude for males and females. However, because the number of males were smaller than the number of females, the coefficients for males were less often statistically significant. The following sections summarize the most significant correlations. The numbers in parentheses are the correlation coefficients which were obtained.

Table 2

Pearson Correlation Coefficients Among the Decision Style Scores, the Information Search Scores, and the Scale Scores of Importance, Confidence, Immediate Satisfaction, and Current Satisfaction for Males and Females in Each Decision Situation. (correlations for males above the diagonal)

Decision Situation: Deciding on a Job

	Rational	Intuitive	Impulsive	Fatalistic	Dependent	Information Search	Importance	Confidence	Immediate Satisfaction	Current Satisfaction	Mean Scores (Male)	S.D. (Male)
Rational		.20	-.22	-.01	-.02	.69**	.14	-.18	-.06	.02	1.53	.194
Intuitive	.21*		.15	.14	.09	-.03	.06	.31*	.19	.26*	1.49	.354
Impulsive	-.15	-.15		.51**	.12	-.36**	.05	.08	.10	.01	1.47	.357
Fatalistic	-.11	-.05	.30**		.35**	-.10	-.12	.03	.01	.01	1.52	.326
Dependent	.05	-.01	.06	.17		-.07	-.03	.03	.09	.12	1.79	.312
Information Search	.58*	.09	-.01	-.16	-.06		.19	-.22	-.17	-.05	.240	.165
Importance	.19	.18	-.15	-.04	.01	.09		.31*	.29*	.28*	7.38	2.66
Confidence	.06	.27**	-.19*	-.01	-.08	.09	.26**		.59**	.46**	7.67	2.43
Immediate Satisfaction	.13	.40**	-.26**	-.13	-.12	.06	.26**	.50**		.34*	6.94	2.89
Current Satisfaction	.09	.34**	-.21*	-.16	-.03	.08	.25**	.30**	.42**		7.67	2.64
Mean Score (female)	1.49	1.46	1.61	1.61	1.84	.225	7.86	7.75	7.24	7.27		
S.D. (female)	.167	.380	.358	.311	.259	.145	2.29	2.36	2.63	2.93		

Table 2

Pearson Correlation Coefficients Among the Decision Style Scores, the Information Search Scores, and the Scale Scores of Importance, Confidence, Immediate Satisfaction, and Current Satisfaction for Males and Females in Each Decision Situation. (correlations for males above the diagonal)

Decision Situation: Deciding on a Movie

	Rational	Intuitive	Impulsive	Fatalistic	Dependent	Information Search	Importance	Confidence	Immediate Satisfaction	Current Satisfaction	Mean Scores (Male)	S.D. (Male)
Rational		.25	-.31	-.05	-.03	.57**	.24	.09	.11	.10	1.58	.23
Intuitive	.10		-.05	.09	.01	.14	.33*	.40**	.28*	.24	1.29	.36
Impulsive	-.31**	-.21*		.24	.03	-.36**	-.28*	-.37**	-.38**	-.34**	1.63	.37
Fatalistic	-.06	-.09	.26**		-.01	-.14	-.30*	-.32*	-.34**	-.30*	1.66	.32
Dependent	.04	-.24**	-.09	.12		-.07	-.06	-.03	-.03	-.01	1.44	.41
Information Search	.47**	.20*	-.35**	-.11	-.02		.18	.19	.23	.21	.34	.23
Importance	.17	.28**	.14	.12	.06	.23*		.52*	.43**	.38**	5.64	3.07
Confidence	.14	.46**	-.24**	-.23**	-.09	.24**	.42**		.66**	.64**	7.61	2.49
Immediate Satisfaction	.12	.34**	.32**	.14	.05	.24**	.25**	.54**		.97**	7.92	2.64
Current Satisfaction	.15	.35**	-.34**	.14	.08	.28**	.29**	.55**	.92**		7.92	2.62
Mean Score (female)	1.64	1.44	1.74	1.79	1.56	.29	5.88	7.42	7.96	7.94		
S.D. (female)	.21	.39	.33	.28	.42	.22	2.92	2.74	2.96	3.07		

Table 2

Pearson Correlation Coefficients Among the Decision Style Scores, the Information Search Scores, and the Scale Scores of Importance, Confidence, Immediate Satisfaction, and Current Satisfaction for Males and Females in Each Decision Situation. (correlations for males above the diagonal)

Decision Situation: Deciding on a College

	Rational	Intuitive	Impulsive	Fatalistic	Dependent	Information Search	Importance	Confidence	Immediate Satisfaction	Current Satisfaction	Mean Scores (Male)	S.D. (Male)
Rational		.20	-.36**	-.26*	.08	.79**	.39**	.25	.32*	.21	1.51	.22
Intuitive	.22*		.08	.33*	.21	.19	.17	-.01	.14	.12	1.48	.34
Impulsive	-.26**	.09		.37**	.19	-.27*	-.29*	-.20	-.30*	-.29*	1.78	.33
Fatalistic	-.10	.26**	.37**		.11	-.19	-.14	-.09	-.09	-.19	1.68	.31
Dependent	-.08	.00	.21*	.18		.12	.02	-.04	-.09	-.08	1.70	.33
Information Search	.81**	.13	-.20*	-.11	-.03		.31*	.15	.23	.12	.37	.20
Importance	.27**	.22*	-.21*	-.02	-.28**	.17		.60**	.59**	.50**	8.00	2.36
Confidence	.24*	.26**	-.30*	-.14	-.33**	.09	.55**		.74**	.55**	7.59	2.15
Immediate Satisfaction	.22*	.23*	-.15	-.09	-.30**	.08	.41**	.65**		.66**	7.90	2.41
Current Satisfaction	.10	.13	-.13	-.06	-.23*	-.01	.29**	.38**	.56**		8.11	2.09
Mean Score (female)	1.52	1.42	1.86	1.82	1.75	.35	8.20	8.04	8.47	8.47		
S.D. (female)	.21	.34	.26	.25	.30	.18	2.16	2.21	2.10	2.15		

Table 2

Pearson Correlation Coefficients Among the Decision Style Scores, the Information Search Scores, and the Scale Scores of Importance, Confidence, Immediate Satisfaction, and Current Satisfaction for Males and Females in Each Decision Situation. (correlations for males above the diagonal)

Decision Situation: Deciding on an Expensive Purchase

	Rational	Intuitive	Impulsive	Fatalistic	Dependent	Information Search	Importance	Confidence	Immediate Satisfaction	Current Satisfaction	Mean Scores (Male)	S.D. (Male)
Rational		.08	-.25	-.14	.22	.68**	.19	.02	.06	.05	1.51	.17
Intuitive	.00		.10	.17	.22	-.04	.05	.08	.12	-.15	1.29	.33
Impulsive	-.36**	.10		.32*	.08	-.22	-.06	.01	-.11	-.31**	1.79	.26
Fatalistic	-.17	.17	.27**		.17	-.19	.06	-.05	-.05	-.10	1.77	.26
Dependent	-.03	.03	.18	.14		-.22	.00	.06	-.11	.07	1.83	.27
Information Search	.68**	.00	-.38**	-.18	.02		.00	-.04	.07	-.08	.36	.25
Importance	.32**	.12	-.12	-.17	-.10	.18		.22	.07	.16	8.78	1.52
Confidence	.08	.01	-.17	-.14	-.18*	.09	.37**		.41**	.31*	8.45	1.78
Immediate Satisfaction	.12	.11	-.25**	-.17	-.24*	.19*	.21*	.65**		.36**	8.55	2.05
Current Satisfaction	.13	.09	-.18	-.03	-.17	.15	.06	.36*	.72**		8.49	2.27
Mean Score (female)	1.55	1.40	1.79	1.87	1.83	.30	8.62	8.05	8.66	8.93		
S.D. (female)	.20	.35	.28	.25	.26	.25	1.94	2.27	2.06	2.15		

Table 2

Pearson Correlation Coefficients Among the Decision Style Scores, the Information Search Scores, and the Scale Scores of Importance, Confidence, Immediate Satisfaction, and Current Satisfaction for Males and Females in Each Decision Situation. (correlations for males above the diagonal)

Decision Situation: Deciding on an Elective Class

	Rational	Intuitive	Impulsive	Fatalistic	Dependent	Information Search	Importance	Confidence	Immediate Satisfaction	Current Satisfaction	Mean Scores (Male)	S.D. (Male)
Rational		.19	.25	.06	.06	.60**	.28*	.28*	.02	.05	1.46	.21
Intuitive	.19*		18	.29*	.02	.02	.23	.24	.01	.04	1.44	.33
Impulsive	.20*	.02		.40*	.07	.23	.28*	.22	.05	.16	1.84	.29
Fatalistic	.12	.03	.25**		.16	.15	.06	.02	.04	.08	1.76	.32
Dependent	.01	.03	.23*	.08		.35**	.03	.04	.01	.03	1.77	.30
Information Search	.64**	.16	.15	.18	.15		.36**	.31*	.07	.15	.23	.20
Importance	.20*	.14	.17	.11	.23*	.18*		.66**	.03	11	6.74	2.30
Confidence	.24*	.23*	.22*	.22*	.13	.23*	.62**		.34**	.26*	7.45	2.03
Immediate Satisfaction	.13	.14	.16	.32**	.09	.11	.28**	.38**		.77**	8.15	2.16
Current Satisfaction	.16	.10	.23**	.30**	.13	.09	.32**	.30**	.87**		8.18	2.28
Mean Score (female)	1.48	1.48	1.87	1.88	1.86	.21	7.33	7.49	8.40	8.69		
S.D. (female)	.19	.32	.24	.25	.24	.19	2.37	2.17	2.29	1.99		

Note: * Probability LE .01 ** Probability LE .001

Immediate Decision Satisfaction

For males, the obtained correlation coefficients supported the hypothesized relationship between the Rational decision style scores and the ratings of immediate decision satisfaction (Hypothesis 1.1) in the college decision (.32) only. For females, the Rational style correlated positively with immediate decision satisfaction in the college decision (.22), but the Intuitive style correlated most positively with immediate decision satisfaction for that decision (.23). However, the magnitude of the coefficients for the Rational and Intuitive styles were almost equivalent.

The Intuitive style correlated most positively with immediate decision satisfaction in the movie decision (.28) for males, and in the job (.40), movie (.34), and college (.23) decision situations for females.

The Impulsive style correlated most negatively with the ratings of immediate decision satisfaction in the movie (-.38) and college (-.30) decisions for males, and in the job (-.26), movie (-.32) and purchase (-.25) decisions for females.

The Fatalistic style correlated negatively with immediate decision satisfaction in the movie (-.34) decision for males, but the magnitude of the coefficient was slightly less than the correlation coefficient between the Impulsive style and immediate decision satisfaction (-.38). The Fatalistic style correlated most negatively with immediate decision satisfaction in the class decision for females (-.32).

The Dependent style correlated most negatively with immediate decision satisfaction in the college decision (-.30) for females. The Dependent style showed a significant negative correlation with immediate decision satisfaction in the purchase decision (-.24) for females; the magnitude of the coefficient was almost equivalent to the coefficient which occurred between the Impulsive style and immediate decision satisfaction (-.25). The Dependent style did not correlate significantly positively or negatively with immediate decision satisfaction in any decision situation for males.

Current (Delayed) Decision Satisfaction

For males and females, the obtained correlation coefficients did not support the hypothesized relationship between the Rational style scores and the ratings of current decision satisfaction in any of the five decision situations (Hypothesis 1.2). The Rational style did not correlate significantly positively or negatively with the ratings of current decision satisfaction in the job (.02), college (.21), class (.05), purchase (.05), or movie (.10) decisions for males, or in the job (.09), college (.10), class (.16), purchase (.13), or movie (.15) decisions for females.

The Intuitive style showed the most positive and significant correlation coefficients with current decision satisfaction in the job (.26) and movie (.24) decision situations for females.

The Intuitive style showed the most positive and significant correlation coefficients with current decision satisfaction in the job (.34) and movie (.35) decision situations for females.

The Impulsive style correlated most negatively with current decision satisfaction in the movie (-.34), college (-.29), and purchase (-.31) decision situations for males, and in the job (-.21) and movie (-.34) decisions for females. A significant negative correlation coefficient occurred between the Impulsive style and the ratings of current decision satisfaction in the class decision (-.23) for females, but the coefficients was less negative than the coefficient (-.30) which occurred between the Fatalistic style and the ratings of current decision satisfaction.

Significant negative correlation coefficients occurred between the Fatalistic style scores and ratings of current decision satisfaction in the movie decision (-.30) for males, and in the class decision (-.30) for females; the Fatalistic style correlated most negatively with current decision satisfaction in the class decision for females.

The Dependent style was not associated significantly with current decision satisfaction in any decision situation for males. The Dependent style correlated most negatively with current decision satisfaction in the college decision (-.23) for females.

Decision Importance

The coefficients supported the hypothesized relationship between the Rational style scores and the ratings of decision importance in some decision situations only (Hypothesis 1.3). The Rational style correlated most positively with decision importance in the college (.39) and class decisions (.28) for males, and in the college (.27), purchase (.32), and class (.20) decisions for females.

The Intuitive style had the most positive correlation with decision importance in the movie decision for males (.33) and females (.28). A significant positive coefficient occurred between the Intuitive style and decision importance in the college decision (.22) for females, but the coefficient was less positive than the coefficient for the Rational style (.27).

The Impulsive style correlated most negatively with decision importance in the college (-.29) and class (-.28) decisions for males. While a significant negative correlation occurred between the Impulsive style and decision importance in the movie decision (-.28) for males, the Fatalistic style was associated most negatively with decision importance for that decision (-.30). The Fatalistic style did not correlate positively or negatively with decision importance to any significant degree in any of the five decision situations for females.

The Dependent style correlated most negatively with decision importance in the college (-.28) and class (-.23) decision situations for females. The Dependent style did not correlate significantly with decision importance in any decision situation for males.

Decision Confidence

The hypothesized relationship between the Rational style and the ratings of decision confidence was supported in some situations only (Hypothesis 1.4). The Rational style correlated most positively with decision confidence in the class decision for males (.28) and females (.24). A significant positive correlation coefficient occurred between the Rational style and decision confidence in the college decision (.24) for females, but it was less positive than the coefficient between decision confidence and the Intuitive style (.26).

The Intuitive style showed the most significant positive correlations with decision confidence in the job (.31) and movie (.40) decisions for males and in the job (.27), movie (.46), and college (.26) decisions for females. A significant positive correlation occurred between the Intuitive style and decision confidence in the class decision (.23) for females, but it was slightly less positive than the correlation coefficient between decision confidence and the Rational style (.24).

The Impulsive style correlated most negatively with decision confidence in the movie decision (-.37) for males and in the job (-.19) and movie (-.24) decision situations for females. Significant negative correlation coefficients also occurred between the Impulsive style and decision confidence in the college (-.30) and class (-.22) decisions for females. However, in the college decision the magnitude of the correlation coefficient was less negative than the coefficient between decision confidence and the Dependent (-.33) style. In the class decision for females, the correlation coefficients between decision confidence and the Impulsive style, and decision confidence and the Fatalistic style were equivalent in magnitude (-.22). For males, a significant negative association occurred between the Fatalistic style and decision confidence in the movie decision (-.32), but the magnitude of the correlation coefficient was less negative than the coefficient between the ratings of decision confidence and the Impulsive style (-.37). Significant negative associations occurred between the Fatalistic style and decision confidence in the movie (-.23) and class (-.22) decision situations for females. The Dependent style correlated most negatively with decision confidence in the college (-.33) and purchase (-.18) decisions for females. The Dependent style showed only negligible correlations with decision confidence for males in all five decision situations.

To summarize briefly, the correlation coefficients in Table 2 showed that the Rational and Intuitive styles were the only styles which correlated positively with the two ratings of decision satisfaction, the ratings of decision importance, and the ratings of decision confidence for males and females in all five decision situations. The Impulsive, Fatalistic, and Dependent styles were the only styles to show significant negative correlations with the above four ratings for males and females in all five decision situations.

Relation of Individual Thoughts and Actions to Decision Satisfaction, Importance, and Confidence

Another set of point-biserial correlation coefficients was computed to determine which specific thoughts and actions were associated most positively and negatively with the ratings of (1) immediate decision satisfaction, (2) current (delayed) decision satisfaction, (3) decision importance, and (4) decision confidence for males and females in all five decision situations. Table 3 shows the Point-biserial correlation coefficients between the above four ratings and the individual DMQ item scores for males and females in each decision situation.

The following paragraphs summarize in order the thoughts and actions which correlated most positively to the least positively and most negatively to the least negatively with each of the ratings for males and females in each decision situation. Numbers in parentheses which follow individual items denote the DMQ variable number. Correlation coefficients equal to or above .15 and equal to or below -.15 were used to define those items which correlated most positively and most negatively with each of the above ratings. These cut-off points were selected because they decreased the total number of correlation coefficients to be discussed and they provided a sufficient number of coefficients to show which thoughts and actions correlated most positively and negatively with each of the above ratings.

Immediate Decision Satisfaction

Job Decision

For males, items which correlated most positively with reported immediate decision satisfaction referred to the following thoughts and actions: An immediate sense of knowing the choice was right (054); strong images and impressions about the job (044); making a list of features which were most desired in a job (037); choosing the job because he knew a person who liked a similar job (040). For males, thoughts and actions which correlated most negatively with immediate decision satisfaction referred to the following thoughts and actions: Choosing a job by rating each possible job and eliminating the least desirable (046); saying to someone that he needed to spend time thinking about what he wanted from a job (032); thinking about the features of the types of job he wanted (036).

Table 3

Point-biserial Correlation Coefficients Between the Ratings of (1) Decision Importance, (2) Decision Confidence, (3) Immediate Decision Satisfaction, Current (Delayed) Decision Satisfaction and the Individual and Composite DMQ Questionnaire Item Scores for Males and Females in each Decision Situation

Decision Situations	Rating Scales							
Job	Importance		Confidence		Immediate Satisfactions		Current Satisfactions	
	M	F	M	F	M	F	M	F
010 Discover Probable Outcomes	23	02	02	-04	01	-03	-02	-09
011 Identify Alternatives	15	21*	-26*	05	-04	02	-12	13
026 Fatalistic	04	01	-13	-02	-14	-04	-02	-13
027 Identify Alternatives	00	03	-21	11	-11	05	-19	08
028 Identify Alternatives	12	11	03	06	-08	05	05	10
029 Identify Alternatives	06	-01	-11	00	-08	-01	03	-06
027+028+029) Identify Alternatives	07	04	-16	07	-12	04	-07	04
031 Establish An Action Plan	-09	01	-19	00	-14	00	-17	01
032 Establish An Action Plan	-01	00	-11	-24**	-21	-14	-03	[illegible]
(031+032) Establish An Action Plan	-06	01	-17	-14	-19	-08	-12	[illegible]
033 Impulsive	-11	-19*	06	-21*	08	-22*	-07	-21*
034 Fatalistic	-06	02	10	00	13	-08	07	-12
035 Discover Probable Outcomes	06	24**	08	08	-06	19*	00	18*
036 Clarify Values	00	10	-20	09	-18	16	-09	03
037 Clarify Values	12	03	12	-01	17	06	14	09
038 Clarify Values	11	-05	-01	-01	-05	-05	06	01
(036+037+038) Clarify Values	09	03	-10	05	-10	08	01	06
039 Impulsive	16	00	16	05	10	07	13	-10
040 Dependent	04	02	00	00	17	07	09	06
041 Clarify Values	-02	19*	-05	-05	-06	08	02	05
042 Clarify Values	17	11	-13	-19*	07	-13	08	-11
(041+042) Clarify Values	11	17	-12	-16	02	-06	06	-06
043 Fatalistic	-26*	-15	11	01	04	-16	-05	-07
044 Intuitive	20	12	19	23*	24	22*	18	04
045 Eliminate Alternatives Systematically	16	07	-18	25**	-01	21*	10	11

Table 3 (Contd.)

Decision Situations	Rating Scales							
Job	Importance		Confidence		Immediate Satisfactions		Current Satisfactions	
	M	F	M	F	M	F	M	F
046 Eliminate Alternatives Systematically	07	11	-23	16	-23	06	01	04
(045+046) Eliminate Alternatives Systematically	13	11	-23	24**	-13	16	06	12
047 Clarify Values	-01	00	-13	07	-04	01	01	07
048 Clarify Values	01	01	-13	-09	02	05	-06	04
049 Clarify Values	04	-01	-15	-15	-01	-11	-05	-11
(047+048+049) Clarify Values	02	-02	-19	-08	-02	-04	-04	-01
050 Dependent	-01	05	06	-09	04	-13	20	-04
051 Impulsive	05	-13	-04	-27**	03	-29**	-03	-16
052 Identify Alternatives	00	08	-27*	-02	-09	02	-07	-09
054 Intuitive	12	18*	30*	30**	27*	39**	19	40**
055 Eliminate Alternatives Systematically	10	17	13	21*	03	29**	12	37**
056 Define the Problem	-01	01	-19	04	-11	10	-09	-13
057 Define the Problem	08	02	03	-09	11	-04	02	-08
(056+057) Define the Problem	07	01	-08	-03	03	03	-03	-11
058 Dependent	-10	-12	05	-07	00	-21*	-02	-06
059 Intuitive	-14	13	18	08	-05	28**	19	30**
060 Discover Probable Outcomes	-09	20*	-03	01	00	-02	-02	-14
061 Discover Probable Outcomes	-13	15	-05	02	12	02	-05	-16
062 Discover Probable Outcomes	19	07	18	01	-02	01	17	08
(060+061+062) Discover Probable Outcomes	-02	19*	10	02	12	01	03	-13
063 Clarify Values	01	13	-17	17	-12	12	05	06
064 Clarify Values	02	06	-11	10	03	06	-07	09
065 Clarify Values	02	07	-11	12	-09	-08	14	01
063+064+065) Clarify Values	06	09	-15	-01	-07	02	12	08
Information Search Job	19	09	-22	09	-17	06	-05	08

Table 3 (Contd.)

Decision Situations	Rating Scales							
Movie	Importance		Confidence		Immediate Satisfactions		Current Satisfactions	
	M	F	M	F	M	F	M	F
071 Dependent	-06	-15	-07	-25**	-05	-16	-03	-20*
072 Identify Alternatives	13	10	03	-12	10	-03	11	01
074 Discover Probable Outcomes	12	03	16	08	16	03	16	02
075 Intuitive	26*	20*	41**	45**	23	28**	23	28**
076 Discover Probable Outcomes	16	13	09	34**	14	23*	10	28**
084 Impulsive	-21	-06	-30*	-12	-22	-27**	-20	-24**
085 Dependent	-10	-04	-02	-09	-04	-02	-04	-01
086 Clarify Values	16	14	-03	06	06	01	05	03
087 Fatalistic	-10	-11	-14	-15	-06	-13	-06	-14
088 Eliminate Alternatives Systematically	31*	22*	27*	34**	25	25**	+23	29**
089 Eliminate Alternatives Systematically	17	03	06	-01	-04	04	-05	06
090 Clarify Values	-07	00	-22	05	-27*	06	-27*	01
091 Establish An Action Plan	00	-08	-01	-20*	-04	-19*	-05	-18*
092 Impulsive	-19	-03	-45**	-23**	-44**	-24**	-42**	-27**
093 Fatalistic	-24	-05	-23	-16	-33**	-06	-31*	-06
094 Intuitive	16	20*	08	25**	01	20*	-02	19*
985 Define the Problem	05	12	-05	07	03	09	00	07
096 Define the Problem	10	10	-05	09	00	08	-01	06
(095+096) Define the Problem	08	12	-05	07	01	09	-01	07
097 Fatalistic	-30*	-09	-32*	-19*	-34**	-11	-28*	-09
098 Dependent	03	02	02	10	02	05	04	-01
099 Intuitive	37**	22*	45**	38**	40**	33**	35**	36**
100 Impulsive	-23	-21*	-15	-21*	-25*	-24*	-21	-28**
Information Search Movie	18	23**	-19	24**	23	24**	21	28**

Table 3 (Contd.)

Decision Situations	Rating	Scales						
	Importance		Confidence		Immediate Satisfactions		Current Satisfactions	
College	M	F	M	F	M	F	M	F
108 Dependent	19	-31**	14	-31**	09	-32**	00	-13
109 Fatalistic	-12	01	-14	05	-09	03	-17	-03
110 Identify Alternatives	26*	21*	09	12	17	14	09	-04
112 Identify Alternatives	28*	-08	05	00	15	-03	17	07
114 Fatalistic	-08	07	-04	00	-11	00	-17	02
115 Impulsive	-14	-15	-19	-23**	-17	-17	-26*	-08
116 Eliminate Alternative Systematically	18	28**	18	20*	24	15	12	10
117 Dependent	-08	-09	-07	-14	-08	-12	-10	-08
(128-137) Discover Probable Outcomes	24	11	09	03	16	07	05	04
138 Impulsive	-16	-18*	-04	-23*	-20	-11	-29*	-11
139 Clarify Values	31*	08	17	05	13	03	07	06
140 Clarify Values	17	05	12	04	07	10	-01	15
141 Clarify Values	15	04	03	10	13	01	07	02
(139+140+141) Clarify Values	31*	05	17	06	16	06	07	11
142 Fatalistic	-10	-10	-04	-27**	01	-17	-07	-12
143 Establish An Action Plan	14	10	00	06	06	02	-03	-03
144 Establish An Action Plan	18	01	17	-03	21	00	21	-06
(142+144) Establish An Action Plan	18	07	09	03	14	01	08	-04
145 Discover Probable Outcomes	-11	07	-14	-01	-14	01	-05	-10
146 Dependent	-08	-26**	-18	-23*	-25	-20*	-10	-29**
147 Define the Problem	14	17	-09	20*	-01	16	00	16
148 Define the Problem	21	15	24	15	22	16	12	03
(147+148) Define the Problem	21	19*	10	21*	13	19*	08	11
149 Intuitive	21	19*	16	24**	32*	32**	19	23*
150 Impulsive	-36**	-09	-25*	-17	-34**	-10	-21	-12

Table 3 (Contd.)

Decision Situations	Rating Scales							
	Importance		Confidence		Immediate Satisfactions		Current Satisfactions	
College (Contd.)	M	F	M	F	M	F	M	F
151 Intuitive	26*	12	06	16	12	12	26*	09
152 Discover Probable Outcomes	13	18	18	13	22	10	05	09
162 Intuitive	-07	17	-23	16	-11	06	-19	-04
163 Discover Probable Outcomes	24	23*	11	30**	11	19*	-01	09
164 Clarify Values	28*	16	14	19*	09	21*	11	12
165 Clarify Values	26*	20*	11	10	16	17	-11	08
166 Clarify Values	03	13	01	19*	14	20*	14	19
167 Establish An Action Plan	35**	14	20	18	16	22*	14	07
168 Eliminate Alternatvies Systematically	22	22*	34**	19*	42**	18*	33**	11
Information Search College	31*	17	15	09	23	08	12	01
Purchase								
174 Elininate Alternatives Systematically	08	12	11	17	07	19*	-15	20*
175 Clarify Values	20	13	-12	-14	-18	-03	15	07
176 Clarify Values	16	16	03	-03	06	-11	-04	-04
177 Clarify Values	24	12	08	-09	08	-05	15	-02
(175+176+177) Clarify Values	29*	18	00	-12	-03	-07	15	01
178 Intuitive	00	15	-07	-04	09	04	-16	00
179 Discover Probable Outcomes	-10	22*	19	16	38**	28**	28**	17
180 Discover Probable Outcomes	-02	14	-05	03	09	04	-04	03
182 Clarify Values	03	31**	04	06	07	07	10	09
183 Clarify Values	16	05	-02	00	06	03	02	07
184 Clarify Values	05	18*	00	02	08	04	13	05

Table 3 (Contd.)

Decision Situations	Rating Scales							
Purchase (Contd.)	Importance		Confidence		Immediate Satisfactions		Current Satisfactions	
	M	F	M	F	M	F	M	F
(182+183+184) Clarify Values	11	27**	00	04	11	06	13	09
185 Dependent	12	-15	09	-26**	-08	-20*	10	-09
186 Impulsive	-12	-13	-18	-22*	-06	-26**	-34**	-21*
187 Clarify Values	-07	28**	-14	10	08	01	-07	-05
188 Clarify Values	20	11	05	07	13	04	12	09
189 Clarify Values	18	28**	20	-01	18	-02	18	02
(187+188+189) Clarify Values	17	33**	10	06	20	00	14	00
190 Fatalistic	22	-22*	-06	-14	09	-12	03	00
191 Define the Problem	35**	40**	00	12	-11	03	-03	-03
192 Define the Problem	-	13	-	09	-	10	-	08
193 Define the Problem	23	24**	03	08	-06	06	14	06
(191+192+193) Define the Problem	34**	33**	02	11	-10	07	09	03
194 Intuitive	03	10	18	18*	13	22*	02	13
195 Clarify Values	35**	06	01	-01	-03	01	08	08
196 Clarify Values	16	10	07	-01	07	-10	-03	01
197 Clarify Values	26*	04	17	-02	-05	02	13	12
(195+196+197) Clarify Values	36**	06	12	-02	-02	00	10	11
198 Establish An Action Plan	03	17	-10	07	-05	13	-14	11
211 Fatalistic	04	-22*	-05	-12	-03	-11	02	-03
212 Identify Alternatives	11	11	02	-13	-10	-10	-10	-10
213 Identify Alternatives	15	08	-11	04	-02	10	-06	10
214 Identify Alternatives	15	06	-09	-14	-10	-05	-06	-01
(212+213+214) Identify Alternatives	18	11	-07	-11	-11	-04	-10	-02
215 Dependent	-13	-10	-02	02	-08	-07	01	-05
216 Discover Probable Outcomes	01	31**	04	05	-07	04	-13	-02

Table 3 (Contd.)

Decision Situations	Rating Scales							
	Importance		Confidence		Immediate Satisfactions		Current Satisfactions	
Purchase (Contd.)	M	F	M	F	M	F	M	F
217 Discover Probable Outcomes	-04	14	06	03	07	-04	-01	-14
218 Discover Probable Outcomes	18	20*	-02	06	-02	16	04	07
(216+217+218) Discover Probable Outcomes	05	28**	05	06	02	07	-02	-05
219 Impulsive	-10	-04	04	-10	-22	-22*	-26*	-20*
200 Discover Probable Outcomes	-02	05	-04	07	-02	09	03	17
221 Intuitive	09	04	09	-09	07	02	-14	08
222 Impulsive	04	-07	09	-05	01	07	-14	01
223 Dependent	-02	02	01	-11	-11	-21*	-02	-21*
224 Fatalistic	-10	-02	00	-07	-11	-15	-22	-04
225 Clarify Values	-02	26**	-15	-02	-05	-05	-02	00
226 Clarify Values	13	11	-07	06	02	06	-02	06
227 Clarify Values	10	21*	02	03	04	02	10	-02
(225+226+227) Clarify Values	10	28**	-07	02	01	02	05	00
Information Search Purchase	00	17	-06	09	07	19*	-08	15
Class								
235 Intuitive	00	02	-02	12	-16	01	-13	03
236 Discover Probable Outcomes	20	11	20	18*	07	16	09	13
238 Clarify Values	22	13	25	14	-04	16	04	12
239 Clarify Values	04	06	03	08	-13	-03	-04	03
240 Clarify Values	05	13	-03	06	-09	08	-09	04
(238+239+240) Clarify Values	14	15	12	13	-13	08	-04	08
241 Fatalistic	-01	-17	-01	-19*	-02	-22*	-09	-23*
242 Impulsive	-14	-24	-11	-21*	-16	-08	-33*	-14

Table 3 (Contd.)

Decision Situations	Rating Scales							
Class (Contd.)	Importance		Confidence		Immediate Satisfactions		Current Satisfactions	
	M	F	M	F	M	F	M	F
243 Identify Alternatives	00	14	09	06	19	01	16	01
244 Identify Alternatives	00	-10	05	05	00	17	01	13
246 Establish An Action Plan	26*	17	26	12	02	15	11	14
247 Establish An Action Plan	10	16	05	11	04	14	04	10
(246+247) Establish An Action Plan	22	18*	19	13	03	16	09	13
248 Eliminate Alternatives Systematically	23	22*	08	35**	-15	26**	-07	23
249 Dsicover Probable Outcomes	33*	08	28*	15	-04	09	05	06
262 Clarify Values	29*	25**	28*	23*	00	03	06	11
263 Clarify Values	18	15	16	05	-13	02	01	10
264 Clarify Values	-05	15	-15	10	-01	-07	-01	-09
(262+263+264) Clarify Values	25	27**	21	17	-09	01	03	09
265 Eliminate Alternatives Systematically	17	05	21	06	05	13	05	12
266 Clarify Values	-10	-02	-01	04	-03	-14	-09	-11
267 Discover Probable Outcomes	04	10	-01	10	-01	02	02	04
268 Impulsive	-27*	-08	-22	-09	-06	-05	-10	09
269 Intuitive	13	00	17	11	-13	00	-05	00
270 Discover Probable Outcomes	13	09	10	08	-18	02	-05	07
271 Impulsive	-25	-11	-17	-24**	07	-24*	-01	-30**
272 Dependent	09	-16	14	-11	00	-05	05	-09
273 Intuitive	09	21*	19	22*	12	12	12	08
274 Fatalistic	10	-02	01	-14	03	-33**	-03	-28**
275 Define the Problem	46**	26**	39**	10	-04	04	10	11
276 Establish An Action Plan	02	12	04	19*	05	12	08	15
277 Establish An Action Plan	14	05	08	11	03	05	01	06
(276+277) Establish An Action Plan	09	10	07	16	05	10	05	12

Table 3 (Contd.)

Decision Situations Class (Contd.)	Rating Scales Importance M	 F	 Confidence M	 F	 Immediate Satisfactions M	 F	 Current Satisfactions M	 F
278 Define the Problem	10	-04	16	09	-04	-02	02	05
279 Define the Problem	18	00	16	04	10	-07	11	-02
(278+279) Define the Problem	02	12	11	05	00	-07	-04	01
280 Dependent	-03	-15	08	-03	16	-03	16	-06
281 Establish An Action Plan	17	05	13	11	00	08	-04	10
282 Establish An Action Plan	-03	01	-02	02	07	08	09	06
283 Establish An Action Plan	10	02	09	07	02	-02	-03	03
(281+282+283) Establish An Action Plan	12	04	10	08	03	06	00	08
284 Define the Problem	-04	13	09	03	-03	02	-05	08
285 Define the Problem	07	07	10	04	02	-13	-01	-04
(284+285) Define the Problem	17	-02	18	08	04	-06	09	00
286 Dependent	-13	-22*	-17	-13	-21	-16	-31*	-17
287 Fatalistic	-06	-08	-06	-18	03	-21*	-06	-20*
Information Search Class	36**	18*	31*	23*	07	11	15	09

Note: Decimal points for the coefficients were omitted.
DMQ items are referenced by variable name and number in the Decision-Making Questionnaire, Appendix A
* LE .01
** LE .001

For females, items which correlated most positively with immediate decision satisfaction referred to the following thoughts and actions: An immediate sense of knowing the job was what she wanted (054); making a choice after comparing the jobs (055); a positive gut feeling about the job (059); choosing based on strong images and impressions about the job (044); choosing a job by eliminating the least desirable jobs (045); talks with people who had worked at the jobs to find out whether the jobs would give her what she wanted (035). Thoughts and actions which correlated most negatively with immediate decision satisfaction referred to the following thoughts and actions: Making a spur of the moment decision (051); a decision based on a momentary impulse (033); being convinced by a friend to take the job (058); waiting until a job came along, then taking it (043).

Movie Decision

For males, items which correlated most positively with immediate decision satisfaction referred to the following thoughts and actions: An immediate sense of knowing the movie would be good (099, 075); comparing movies to determine which one would provide the desired benefits (088); obtaining different kinds of information about the movie before making the decision (information search); comparing the locations of two or more theatres (074). For males, items which correlated most negatively with immediate decision satisfaction referred to the following thoughts and actions: Making a spur of the moment decision (092); picking a movie and just hoping it would be good (097); picking a movie by chance (093); considering the cost of the movie (090); making a fast decision without thinking much about it (100); making a decision based on a momentary impulse (084).

For females, items which correlated most positively with immediate decision satisfaction referred to the following thoughts and actions: An immediate sense of knowing the movie would be good (099, 075); comparing movies to determine which one would provide the desired benefits (088); obtaining different kinds of information about the movies before making the decision (information search); obtaining information about the movie prior to making the decision (076); basing the decision on some strong images and impressions about the movie (094). For females, items which correlated most negatively with immediate decision satisfaction referred to the following thoughts and actions: Making a decision based on a momentary impulse (084); making a spur of the moment decision (092); making a fast decision without thinking much about it (100); thinking how much time she had to make the decision and the best method for deciding within that time limit (091); choosing the movie because another person convinced her to see it (071).

College Decision

For males, items which correlated most positively with immediate decision satisfaction referred to the following thoughts and actions: Comparing colleges and choosing one that would provide the benefits which were most important to him (168); feeling a strong sense of assurance that the choice was right (149); comparing colleges to find one which would provide the most benefits (116); obtaining different kinds of information about the college before making the decision (information search); saying to someone he needed to spend time thinking about what benefits were important for him to get from a college (148); estimating his potential success in the college(s) by comparing their academic ratings with his estimation of his own abiliities (152); describing to someone a plan he was using to compare different colleges (144); thinking and describing to someone a plan he was using to compare different collages (143 + 144); setting aside periods of time to gain information about the colleges (167); obtaining information about the colleges before he made a choice (110); describing to someone what he wanted to get from going to college (165); obtaining different kinds of information about the college by finding out what another person thought of it (110). For males, items which correlated most negatively with immediate decision satisfaction referred to the following thoughts and actions: Making a fast decision to enroll in the college (150); enrolling in the college because his friend(s) decided to attend (146); choosing the college on the spur of the moment (138); choosing the college based on a momentary impulse (115).

For females, items which correlated most positively with immediate decision satisfaction referred to the following thoughts and actions: Feeling a strong sense of assurance that the choice was right (149); setting aside periods of time for getting information about the college(s) before deciding (167); thinking about what she wanted to get out of going to college (164); making a list of what she wanted to get out of going to college (166); studying the course catalogs to insure that the college she chose would give her what she wanted (163); comparing colleges and choosing the one which would provide the most desired benefits (168);

thinking and discussing with someone that she needed to spend time thinking about what was important to get from a college (147 + 148); thinking about what was important to get from a college (147); saying to someone what was important to get from a college (148); describing to another person what she wanted to get from going to college (165); comparing one or more colleges to find out which one would provide the most benefits (116). For females, items which correlated most negatively with immediate decision satisfaction referred to the following thoughts and actions: Choosing the college because another person decided to attend (108); deciding to attend this college because her friends decided to attend (146); choosing the college based on a belief that if it would turn out to be good it just would and there was nothing she could do about it (142); choosing a college on a momentary impulse (115).

Deciding on an Expensive Purchase

For males, items which correlated most positively with immediate decision satisfaction referred to the following thoughts and actions: Carefully inspecting the purchase to make sure it was what he wanted (179); describing to someone the benefits he wanted from the purchase (189); thinking about, describing to someone, and writing a list of desired benefits (187 + 188 + 189); describing to someone a list of benefits he wanted in his choice (189). For males, items which correlated most negatively with immediate decision satisfaction referred to the following thoughts and actions: Making the decision on impulse (219); thinking about what he might be giving up by making the purchase at that time (175).

For females, items which correlated most positively with immediate decision satisfaction referred to the following thoughts and actions: Carefully inspecting the purchase to make sure it was what she wanted (179); an immediate sense of knowing the purchase would be good (194); comparing possible purchases and choosing the one which would provide the most desired benefits (174); obtaining different kinds of information about the purchase before making the decision (information search); studying the purchase before choosing to make sure it was what she wanted (218). For females, items which correlated most negatively with immediate decision satisfaction referred to the following thoughts and actions: Basing the decision on a spur of the moment impulse (186); choosing a purchase by acting on impulse without thinking much about it (219); choosing the purchase based on another person's opinion (223); choosing the purchase because another person convinced her to make the choice (185); choosing the purchase based on the belief that if it would turn out to be good it just would and there was nothing she could do about it (224).

Deciding on a Class

For males, items which correlated most positively with immediate decision satisfaction referred to the following thoughts and actions: Studying the course catalog for classes that would provide him with the benefits he desired (243); choosing a class by asking another person what he would take (280). For males, items which correlated most negatively with immediate decision satisfaction referred to the following thoughts and actions Taking a class that his friends decided to take (286); estimating his potential success by comparing the required work with an estimation of his own abilities (270); basing his decision on an instinctive understanding he had about the class (235); making a fast decision without thinking much about it (242); comparing classes to determine which one would provide the most desired benefits (248).

For females, items which correlated most positively with immediate decision satisfaction referred to the following thoughts and actions: Comparing classes to determine which one would provide the most desired benefits (248); making a list of alternative class choices (244); thinking about and saying to someone that she needed to spend time obtaining information about the classes before deciding on a class (246 + 247); thinking about the benefits to get from a class (238); soliciting opinions from people who had taken the class (236); thinking that she had to spend time obtaining information about possible classes (246). For females, items which correlated most negatively with immediate decision satisfaction referred to the following thoughts and actions: Choosing a class based on a belief that all she could do was to hope it would turn out to be good (274); choosing a class based on an impulse (271); choosing a class by trusting in luck and hoping for the best (241); choosing the class because a friend convinced her to take it (286); choosing an available class by trusting in chance, based on the belief that you can't tell whether one class would be better than another without having taken them (287).

Comparison of Males and Females

One difference between males and females was in the following Rational style substeps which correlated positively with immediate decision satisfaction for females and negatively for males: Clarify Values in the job decision, Discover Probable Outcomes in the class decision, and Eliminate

Alternatives Systematically in the job and class decisions. There were no instances in which a Rational style thought or action correlated positively with immediate decision satisfaction for males and negatively for females.

Similarity between males and females occurred in the following Rational style substeps which were positively associated with the ratings of immediate decision satisfaction: Define the Problem, Establish an Action Plan, and Discover Probable Outcomes in the college decision; Discover Probable Outcomes and Eliminate Alternatives Systematically in the movie decision; Discover Probable Outcomes in the purchase decision; and Identify Alternatives in the elective class decision. For both males and females, positive associations occurred between the degree of information searched and immediate decision satisfaction in the movie decision.

Males and females were most similar in their associations between the Intuitive, Impulsive, and Fatalistic decision style thoughts and actions and the ratings of immediate decision satisfaction. The Intuitive style thoughts and actions tended to correlate positively with immediate decision satisfaction. The Impulsive and Fatalistic style thoughts and actions tended to correlate negatively with immediate decision satisfaction for both males and females.

Current (Delayed) Decision Satisfaction

Job Decision

For males, items which correlated most positively with ratings of current decision satisfaction in the job decision referred to the following thoughts and actions: Basing the decision mostly on the advice of another person (050); choosing based on an immediate sense of knowing the job was what he wanted (054); choosing based on strong images and impressions of how the job might be (044); writing to obtain information about different jobs (062). For males, items which correlated most negatively with current decision satisfaction referred to the following thoughts and actions: Thinking about the types of jobs he would consider (027); thinking that he needed to spend time determining what he wanted from a job (031).

For females, items which correlated most positively with ratings of current decision satisfaction referred to the following thoughts and actions: Choosing based on an immediate sense of knowing the job was what she wanted (054); comparing possible jobs and choosing one which would provide the most desired benefits (055); choosing based on some positive gut feelings she had about the job (059); talking to people familiar with the considered job(s) to determine whether they would provide the benefits she desired (035). For females, items which correlated most negatively with current decision satisfaction referred to the following thoughts and actions: Making the decision on a momentary impulse (033); making a spur of the moment decision (051); appearing in person to find out more about the jobs from the employer (061).

Movie Decision

For males, items which correlated most positively with current decision satisfaction referred to the following thoughts and actions: Choosing the movie based on an immediate sense of knowing it would be satisfying (099); choosing a movie with the desired benefits by comparing among different movies (088); choosing based on an immediate sense of knowing the movie would be a good one (075); obtaining different kinds of information about the movies before making the decision (information search); comparing the locations of two or more theatres (074). For males, items which correlated most negatively with current decision satisfaction referred to the following thoughts and actions: Making a spur of the moment decision (092); trusting in chance and hoping the movie would turn out to be good (093); choosing a movie based on the belief that you really couldn't do anything but hope it turned out to be good (097); considering the cost of the movie (090); making a fast decision without thinking much about it (100); choosing a movie based on a momentary impulse (084).

For females, items which correlated most positively with current decision satisfaction referred to the following thoughts and actions: Choosing a movie based on an immediate sense of knowing it would be satisfying (099); comparing different movies to find the one which would provide the benefits she desired (088); obtaining different kinds of information about the movies before making the decision (information search); choosing based on an immediate sense of knowing the movie would be a good one (075); obtaining information about the movie prior to making the decision (076); choosing based on some strong images and impressions about the movie (094). For females, items which correlated most negatively with current decision satisfaction referred to the following thoughts and actions: Making a fast decision without thinking much about it (100); making a spur of the moment decision (092); choosing based on a momentary impulse (084);

choosing the movie because another person convinced her to see it (071); thinking about a method for deciding within the amount of time she had available (091).

Deciding on a College

For males, items which correlated most positively with current decision satisfaction referred to the following thoughts and actions: Choosing a college which would provide the most desired benefits by comparing among different colleges (168); choosing a college based on some good feelings, images, and impressions about the college (151); describing to someone a method he used for comparing different colleges (144); choosing a college based on feeling a strong sense of assurance that the college was the right choice (149); obtaining information about the college from people who were familiar with the college (112). For males, items which correlated most negatively with current decision satisfaction referred to the following thoughts and actions: Making a spur of the moment decision (138); choosing a college based on a momentary impulse (115); making a fast decision to attend the college without thinking much about it (150); choosing the college based on how he pictured himself at the college (162); choosing the college based on the belief that you just have to take your chances in choosing a college because success in life is really a matter of lucky breaks (109); choosing an available college based on the belief that you just have to trust in chance because you can't tell whether one college will be better than another until you actually experience them (114).

For females, items which correlated most positively with current decision satisfaction referred to the following thoughts and actions:

Choosing the college based on feeling a strong sense of assurance that it was the right choice (149); making a list of what she wanted to get out of college (166); thinking that she needed to spend time thinking about what was important to get from a college (147); discussing with another person the benefits of going to each possible college (140). For females, the only item to show any degree of negative association with current decision satisfaction was deciding to attend the college because her friends decided to attend (146).

Purchase Decision

For males, items which correlated most positively with current decision satisfaction referred to the following thoughts and actions: Carefully inspecting the purchase at the time he was buying it to make sure it was what he wanted (179); describing to someone the benefits he wanted from his purchase (189); thinking about what he might be giving up in the future by making the purchase at that time (175); describing to someone what he might be giving up in the future by making the purchase at that time (177). For males, items which correlated most negatively with current decision satisfaction referred to the following thoughts and actions: Choosing a purchase on a spur of the moment impulse (186); making a quick decision to buy the purchase without thinking much about it (219); making the purchase based on the belief that if it worked out it just would and there was really nothing he could do about it (224); choosing the purchase based on some strong images and impressions of how it might be (178); choosing this purchase over other possible purchases because it would provide the benefits he desired (174).

For females, items which correlated most positively with current decision satisfaction referred to the following thoughts and actions: Choosing this purchase over other possible purchases because it would provide the benefits she desired (174); carefully inspecting the purchase at the time she was buying it to make sure it was what she wanted (179); finding out the conditions under which her money would be refunded if she were dissatisfied with the purchase (220); obtaining different kinds of information about the purchase before she made her decision (information search). For females, items which correlated most negatively with current decision satisfaction referred to the following thoughts and actions: Choosing the purchase based on a spur of the moment impulse (186); choosing the purchase based mostly on what another person said about it (223); making a quick decision to buy the purchase without thinking much about it (219).

Elective Class Decision

For males, items which correlated most positively with current decision satisfaction referred to the following thoughts and actions: Studying the course catalog for classes that would give him what he wanted (243); asking another person what class she/he would take and choosing that class (280); obtaining different kinds of information about the class before he made his decision (information search). For males, items which correlated most negatively with current decision satisfaction referred to the following thoughts and actions: Making a fast decision to take the class without thinking much about it (242); choosing the class because his friend(s) decided to take it (286).

For females, items which correlated most positively with current decision satisfaction referred to the following thoughts and actions: Choosing the class over other possible classes because it would provide the benefits which she most desired (248); thinking that she needed to spend time planning her class schedule (276). For females, items which correlated most negatively with current decision satisfaction referred to the following thoughts and actions: Choosing a class based on an impulse (271); choosing an available class based on a belief that if the class turned out to be good it just would and there wasn't much she could do about it (274); choosing an available class and just hoping for the best, based on the belief that she could not do anything to affect how the class would be (241); choosing an available class and just taking her chances on its being good, based on the belief that you can't tell whether one class is better than another without taking them first (287); choosing the class because her friends decided to take it (286).

Comparison of Males and Females

For females, correlation coefficients between the ratings of current decision satisfaction and the Intuitive style thoughts and actions were always positive, but they were both positive and negative for males. For males, negative associations occurred between the Intuitive style items and the ratings of current decision satisfaction in the college and purchase decision situations. Positive associations occurred between the Intuitive style thoughts and actions and the ratings of current decision satisfaction for males and females in the job, movie, and college decisions.

Differences between males and females were shown in the correlation coefficients between the ratings of current decision satisfaction and the Dependent style thoughts and actions. While the Dependent style thoughts and actions correlated negatively with current decision satisfaction for females, positive associations occurred for males in the job (050) and class (286) decisions.

Males and females were similar in the associations which occurred between the Impulsive and Fatalistic style thoughts and actions and the ratings of current decision satisfaction. For both males and females, the Impulsive style thoughts and actions correlated negatively with current decision satisfaction in the movie, purchase, and class decisions. For males, the Fatalistic style thoughts and actions correlated negatively with current decision satisfaction in the movie, college, and purchase decisions, but for females only in the class decision.

Males and females were also similar in the following Rational style substeps which were positively associated with the ratings of current decision satisfaction for both males and females: Discover Probable Outcomes in the job, movie, and purchase decision; Eliminate Alternatives Systematically in the movie decision. Positive associations also occurred between the degree of information searched (information search) and the ratings of current decision satisfaction in the movie decision for both males and females.

Decision Importance

Job Decision

For males, items which correlated most positively with ratings of decision importance referred to the following thoughts and actions: Making follow-up calls to the employer shortly after applying for the job (010); choosing the job based mostly on some strong images and impressions of how the job might be (044); writing to obtain information about the job (062); obtaining different kinds of information about the job before he made his decision (information search); describing to someone the reasons why he needed a job (042); thinking about some possible jobs and eliminating the least desirable (045); applying for a job without thinking much about it (039); using different sources of information to find out about possible jobs (011). For males, the only item to show a significant negative correlation with rated decision importance referred to waiting until a job came along, choosing it and just hoping it would work out (043).

For females, items which correlated most positively with the ratings of decision importance referred to the following thoughts and actions: Talking with other people who had worked at the jobs she was considering to find out if those jobs would give her what she wanted (035); using different sources of information to find out about possible jobs (011); contacting the employers by phone to obtain information about the jobs (060); thinking about the reasons why she needed a job (041); thinking and describing to someone the reasons why she needed a job (041 + 042); choosing a job based on an immediate sense of knowing the job was what she wanted (054); choosing the job over other possible jobs because it would provide the most desired benefits (055); appearing in person to obtain information about the jobs (061). For females, items which correlated most negatively with decision importance referred to the following thoughts and actions: Choosing a job based on a momentary impulse (033); waiting until a job came along, choosing it and just hoping that it would work out (043).

Movie Decision

For males, items which correlated most positively with the ratings of decision importance referred to the following thoughts and actions: Choosing a movie based on an immediate sense of knowing it would be satisfying (099); choosing the movie over other possible movies because it would provide the most desired benefits (088); choosing the movie based on an immediate sense of knowing it would be good (075); comparing the actors and actresses in two or more movies (089); choosing the movie based on some strong images and impressions about it (094); searching for a movie to get him into a mood which he desired (086); obtaining different kinds of information about the movie before he made his decision (076, information search). For males, items which correlated most negatively with the ratings of decision importance referred to the following thoughts and actions: Choosing a movie by chance and just hoping it would work out (097); choosing an available movie, and trusting in luck that it would work out (093); making a fast decision to see the movie without thinking much about it (100); choosing a movie based on a momentary impulse (084); making a spur of the moment decision to see the movie (192).

For females, items which correlated most positively with the ratings of decision importance referred to the following thoughts and actions:

Choosing a movie based on an immediate sense of knowing it would be satisfying (099, 075); obtaining different kinds of information about the movie before she made her decision (information search); choosing the movie over other possible movies because it seemed to provide the most desired benefits (088); choosing a movie based on some strong images and impressions of how it might be (094). For females, items which correlated most negatively with the ratings of decision importance referred to the following thoughts and actions: Making a fast decision to see the movie without thinking much about it (100); choosing the movie because another person convinced her to see it.

College Decision

For males, items which correlated most positively with the ratings of decision importance referred to the following thoughts and actions: Setting aside periods of time to obtain information about possible colleges (167); thinking about the benefits of attending each possible college (139); thinking about, describing to someone, and making a list of the benefits of attending each college he was considering (139 + 140 + 141); thinking about what he wanted to get out of college (164); obtaining different kinds of information about the college before he made his decision (information search); obtaining information about the college by talking with another person(s) who was familiar with it (112); obtaining information about one or more possible colleges (110); describing to another person what he wanted to get out of college (165); choosing the college based mostly on some positive feelings, images, and impressions he had about it (151); obtaining different kinds of information about the college before he made his decision (128-137); studying the course catalog about the college (163); choosing the college over other possible colleges because it would provide the benefits that were most important to him (168); saying to someone that he needed to spend time thinking about what was important to get from a college (148); thinking about and saying to someone that he needed to spend time thinking about what was important to get from a college (147 + 148); choosing a college based on feeling a strong sense of assurance that attending the college was the right thing to do (149); choosing the college because another person decided to attend it (108); describing to someone a method he was using for comparing different colleges (144); thinking about and describing to someone a method he was using for comparing different colleges (143 + 144); comparing one or more colleges to determine which one would provide the most benefits (116); discussing with another person the benefits of attending the college(s) he was considering (140); making a list of the benefits of attending the college(s) he was considering (141). For males, items which correlated most negatively with the ratings of decision importance referred to making a fast decision to attend the college without thinking much about it (150), and making a decision to attend the college on the spur of the moment (138).

For females, items which correlated most positively with the ratings of decision importance referred to the following thoughts and actions: Comparing one or more colleges to determine which one would provide the most desired benefits (116); studying the course catalog(s) to insure that the college she chose would give her what she wanted (163); choosing the college over other possible colleges because it would provide the most desired benefits (168); obtaining information about one or more other colleges before she made her decision (110); describing to another person what she wanted to get from a college (165); choosing a college based on a strong sense of assurance that attending the college was the right thing to do (149); thinking and saying to someone that she needed to spend time thinking about what was important for her to get from a college (147 + 148); estimating her potential success at each possible college by comparing their academic ratings with an assessment of her own abilities (152); thinking that she needed to spend time thinking through what was important to get from a college (147); deciding on the college based on how she pictured herself at the college (162); thinking about what she wanted to get out of going to college (164); obtaining different kinds of information about the college(s) before she made her decision (information search); saying to someone that she needed to spend time thinking through what was important to get from a college (148). For females, items which correlated most negatively with decision importance referred to the following thoughts and actions: Choosing the college because another person decided to attend it (108); choosing the college because her friend(s) decided to attend (146); making a spur of the moment decision to attend the college (138); choosing a college based on a momentary impulse (115).

Purchase Decision

For males, items which correlated most positively with the ratings of decision importance referred to the following thoughts and actions: Thinking about, describing to someone, and writing a list of what he might be giving up immediately by making the purchase at that time (195 + 196 + 197); thinking about what he might be giving up immediately by making the decision at that time (195); thinking about the reasons why the purchase was more important to make at that time than any other purchase (191); thinking about, describing to someone, and writing a list of reasons why the decision was important to make at that time than any other purchase (191 + 192 + 193); thinking about, describing to someone, and writing a list of what he might be giving up in the future by making the purchase at that time (175 + 176 + 177); describing to someone what he might be giving up immediately by making the decision at that time (197); describing to someone what he might be giving up in the future by making the purchase at that time (177); writing a list of the specific benefits that he wanted from the purchase (188); thinking about, describing to someone, and writing a list of other possible purchases he could make before his final decision (212 + 213 + 214); studying the purchase to make sure it would give him what he wanted (218); thinking about, describing to someone, and writing a list of specific benefits he wanted from the purchase (187 + 188 + 189); writing a list of what he might be giving up in the future by making the purchase at that time (176); writing a list of immediate benefits he might be getting by making the purchase (183); writing a list of what he might be giving up immediately by making the purchase at that time (196); writing a list of other possible purchases he could make, before he made his final decision (213); describing to someone other possible purchases he could have made before he made his final decision (214). For males, none of the thoughts or actions correlated negatively with rated decision importance below the criterion level. (r = -.15).

For females, items which correlated most positively with rated decision importance referred to the following thoughts and actions: Thinking about the specific reasons why the purchase was more important to make than any other purchase (191); thinking about, describing to someone, and writing a list of the specific reasons why the purchase was more important to make than any other purchase (191 + 192 + 193); thinking about, describing to someone, and writing a list of the specific benefits she wanted from the purchase (187 + 188 + 189); thinking about the immediate benefits she might get from the purchase (182); observing another person using the purchase (216); thinking about the specific benefits she wanted from the purchase (187); describing to someone the specific benefits she wanted from the purchase (189); observing someone use the purchase, trying out the purchase, and studying the purchase to make sure it would give her what she wanted (216 + 217 + 218); thinking about, writing a list, and describing to someone what future benefits she might be getting by making the purchase at that time (225 + 226 + 227); thinking about, writing a list, and describing to someone the immediate benefits she might get by making the purchase (182 + 183 + 184); thinking about what future benefits she might be getting by making this purchase at that time (225); describing to someone the reasons why this purchase was more important to make than any other possible purchase (193); inspecting her purchase carefully to make sure it was exactly what she wanted (179); describing to someone what future benefits she might be getting by making the purchase at that time (227); studying the purchase to make sure it would give her what she wanted (218); thinking about, writing a list, and describing to someone what she might be giving up in the future by making the purchase (175 + 176 + 177); describing to someone immediate benefits she might be getting by making the purchase (184); obtaining different kinds of information about the purchase (198; information search); writing a list of what she might be giving up in the future by making the purchase at that time (176); choosing the purchase based on some strong images and impressions of how the purchase would be (178). For females, items which correlated most negatively with rated decision importance referred to the following thoughts and actions: Just choosing the purchase based on the belief that you can't tell whether you'll be satisfied with a purchase because the future is so unpredictable (190); just choosing something she wanted to buy based on the belief that you can't really tell what would be the best purchase beforehand (211); purchasing what another person convinced her to purchase (185).

Elective Class Decision

For males, items which correlated most positively with rated decision importance referred to the following thoughts and actions: Choosing the class because it helped him meet a goal which he had set for himself (275); obtaining different sources of information about the class prior to his decision (information search); comparing different sources of information about the class before making a decision (249); thinking about the ways in which the class might fit in with his future plans (262); thinking that he had to spend time getting information about some possible classes (246); thinking about, discussing with someone, and writing a list of the ways in which that class might fit in with his future plans (262 + 263 + 264); choosing the class over other possible classes because it would provide the benefits which were most important to him (248); thinking about the benefits which were important to get from a class (238); thinking about and saying to someone that he must spend some time obtaining information about possible classes (246 + 247); asking other people who had taken the course for their opinions of it (236); saying to someone that he had to make a decision about which class to take (279); discussing with someone the ways in which the class might fit in with his future plans (263); thinking and saying to someone that he needed to spend some time thinking about the kind of class that might give him what he wanted (284 + 285); thinking about a plan of courses to take in college (281); comparing two or more classes to find one that would satisfy his interests (265). For males, items which correlated most negatively with rated decision importance referred to quickly choosing an elective that fit his time schedule (268), and choosing a class based mostly on an impulse (271).

For females, items which correlated most positively with rated decision importance referred to the following thoughts and actions: Thinking about and discussing with someone and writing a list of the ways in which the class might fit in with her future plans (262 + 263 + 264); choosing the class because it helped her to meet a goal that she had set for herself (275); thinking about the way(s) in which that class might fit in with her future plans (262); choosing the class over other possible classes because it would provide benefits which were most important to her (248); choosing the class based mostly on a strong gut feeling she had about the class (273); thinking about and saying to another person that she must spend time obtaining information about some possible classes (246 + 247); obtaining different kinds of information about the class before she made her decision (information search); thinking that she had to spend some time getting information about possible classes (246); saying to someone that she had to spend some time getting information about the classes that were going to be offered (247); thinking about, describing to another person, and writing a list of the important benefits she wanted to get from a class (238 + 239 + 240); discussing with someone the ways in which that class might fit in with her future plans (263); writing a list of the way(s) in which that class might fit in with her future plans (264). For females, items which correlated most negatively with rated decision importance referred to the following thoughts and actions: Making a fast decision without thinking much about it (242); choosing the class because her friend(s) had decided to take it (286); choosing an available class and hoping for the best based on the belief that she really couldn't do anything else about it (241); choosing the class based mostly on another person's opinion (272); asking another person what she would take and choosing the class she/he described (280).

Comparison of Males and Females

When faced with what they judged to be an important decision, both males and females tended to use the following Rational style substeps: Define the Problem in the college, purchase, and class decisions; Establish An Action Plan in the class decision; Clarify Values in the job, college, purchase, and class decisions; Identify Alternatives in the job and college decisions; Discover Probable Outcomes in the job, college, and purchase decisions; and Eliminate Alternatives Systematically in the job, movie, college, and class decisions. For males and females, positive associations occurred between the degree of information searched and the ratings of decision importance in the movie, college, and class decisions.

Males and females both showed positive associations between the ratings of decision importance and the Intuitive style thoughts and actions in the job, movie, and college decisions.

For males and females, Impulsive style thoughts and actions were associated with the ratings of decision importance in the movie, college, and class decisions. However, in the job decision a positive association occurred between one Impulsive item and rated decision importance for males (applying for a job immediately without thinking much about it, item (039).

Males and females showed negative associations between the ratings of decision importance and the Fatalistic style thoughts and actions except in the purchase decision where a positive association occurred between rated importance and a Fatalistic style item for males. The item referred to choosing an alternative based on the belief that you can't tell beforehand whether you'll like the purchase because the future is so unpredictable (190). The same item correlated negatively with rated decision importance for females.

Another difference between males and females was shown in the relationship between the Dependent style thoughts and actions and the ratings of decision importance. In the college decision, Dependent style item 108 correlated positively with decision importance for males, but it correlated negatively with decision importance for females. Item 108 referred to choosing the college because another person convinced him/her to attend the college. The Dependent style thoughts and actions did not correlate significantly in any other decision situation for males. However, for females, the Dependent style items correlated negatively with rated decision importance in the movie, purchase, and elective class decisions.

Decision Confidence

Job Decision

For males, items which correlated most positively with the ratings of decision confidence referred to the following thoughts and actions: Choosing the job based on an immediate sense of knowing it was the right job (054); choosing the job based mostly on some strong images and impressions of how it might be (044); choosing the job based mostly on some positive gut feelings that he had about it (059); writing to find out more about the jobs that he was considering (062); applying for the job as soon as he heard of an opening without thinking much about it (039). For males, items which correlated most negatively with the ratings of decision confidence referred to the following thoughts and actions: Applying for a number of other jobs as backup alternatives in case the first job did not work out (052); using different sources of information to find out about some possible jobs (011); thinking about and rating the possible jobs and eliminating the least desirable (045 + 046); thinking about the possible jobs and eliminating the least desirable (046); obtaining different kinds of information about the jobs before he made his decision (information search); thinking about the types of jobs he would consider (027); thinking about the characteristics or features of the job he wanted (036); thinking that he had to set aside time to look for a job (056); thinking that he had to spend time finding out what he wanted from a job (031); thinking about, writing a list of, and describing to someone the things he would gain by getting a job and what he would be giving up (047 + 048 + 049); thinking about the jobs for which he might apply and eliminating the least desirable (045); thinking about and saying to someone that he needed to spend time thinking about what he wanted from a job (031 + 032); thinking about how important the various benefits were that he wanted to get from a job (063); thinking about, writing a list, and describing to someone the types of jobs he would consider (027 + 028 + 029); describing to someone the things he would gain by getting a job and what he would be giving up (049); thinking about, writing a list, and describing to someone how important the various benefits were that he wanted to get from a job (063 + 064 + 065).

For females, items which correlated most positively with the ratings of decision confidence referred to the following thoughts and actions: Choosing a job based mostly on an immediate sense of knowing it was what she wanted (054); thinking about the jobs for which she could apply and eliminating the least desirable (045); thinking about and rating the types of jobs she would consider (045 + 046); choosing the job based mostly on some strong images and impressions of how it might be (044); choosing the job over other possible jobs because it would provide benefits which were most important to her (055); thinking about how important the benefits were that she wanted to get from the job (063); rating the jobs for which she might apply and eliminating the least desirable (046). For females, items which correlated the most negatively with the ratings of decision confidence referred to the following thoughts and actions: Applying for a job based on a momentary impulse (051); saying to someone that she needed to spend time thinking about what she wanted from a job (032); choosing a job based on a momentary impulse (033); describing to someone the reasons why she needed a job (042); describing to someone the things she would gain by getting a job and what she would be giving up (049).

Movie Decision

For males, items which correlated most positively with ratings of decision confidence referred to the following thoughts and actions: Choosing the movie based on an immediate sense of knowing it would be satisfying (099, 075); choosing the movie over other possible movies because it would provide the benefits which were most important to him (088);

obtaining different kinds of information about the movie before he made his decision (information search); comparing the locations of two or more movie theaters that were showing the picture (074). For males, items which correlated most negatively with the ratings of decision confidence referred to the following thoughts and actions: Choosing a movie on the spur of the moment to occupy his time (092); choosing a movie and just hoping that it would be good because he believed that there wasn't anything else he could do about it (097); choosing a movie based mostly on a momentary impulse (084); choosing an available movie and just hoping that it would turn out to be good (093); considering the cost of the movie before he made his decision (090); making a fast decision to see the movie without thinking much about it (100).

For females, items which correlated most positively with the ratings of decision confidence referred to the following thoughts and actions: Choosing a movie based mostly on an immediate sense of knowing it would be good (075, 099); obtaining information about the movie before she made her decision (076); choosing the movie over other possible movies because it would give her the benefits she wanted in her choice (088); choosing the movie based mostly on some strong images and impressions which she developed about it (094); obtaining different kinds of information about the movie before she made her decision (information search). For females, items which correlated most negatively with ratings of decision confidence referred to the following thoughts and actions: Choosing the movie because another person convinced her to see it (071); choosing the movie on the spur of the moment (092); making a fast decision to see the movie without thinking much about it (100); thinking what would be the best method for making the decision within the amount of time that was available (091); choosing an available movie and just hoping that it would be good because she believed there wasn't anything else that she could do about it (097, 093).

College Decision

For males, items which correlated most positively with the ratings of decision confidence referred to the following thoughts and actions: Choosing the college over other possible colleges because it seemed like it would provide the benefits which were most important to him (108); saying to someone that he needed to spend some time thinking about what was important for him to get from a college (148); using certain periods of time for obtaining information about the colleges (167); estimating his potential success in each possible college by comparing each college's academic rating with an assessment of his own abilities (152); comparing two or more colleges to determine which one would provide the most benefits (116); thinking about the benefits of going to each of the colleges he was considering (139); thinking about, discussing with another person, and making a list of the benefits of going to each of the colleges he was considering (139 + 140 + 141); describing to someone a method he was using for comparing different colleges (144); choosing a college based on a strong sense of assurance that attending that college was the right thing to do (149); obtaining different kinds of information about the colleges before he made his decision (information search). For males, items which correlated most negatively with the ratings of decision confidence referred to the following thoughts and actions: Making a fast decision to attend the college without thinking much about it (150); choosing a college based on how he pictured himself at the college and how he imagined it might be (162); choosing a college based on a momentary impulse (115); deciding to attend the college because his friend(s) decided to attend it (146).

For females, items which correlated most positively with the ratings of decision confidence referred to the following thoughts and actions: Studying the course catalogs to insure that the college she chose would give her what she wanted (163); choosing a college based on feeling a strong sense of assurance that it was the right choice (149); thinking about and saying to someone that she needed to spend time determining what she wanted to get from a college (147 + 148); comparing two or more colleges to determine which one would provide the most benefits (116); thinking that she needed to spend some time thinking about what was important for her to get from a college (147); thinking about what she wanted to get out of going to college (164); making a list of what she wanted to get out of going to college (166); choosing the college over other possible colleges because it would provide the benefits which were most important to her (168); using certain periods of time to obtain information about the colleges (167); choosing a college based mostly on the good feelings, images, and impressions which she had about it (151); choosing a college based on how she pictured herself at the college and how she imagined it would be (162); saying to someone that she needed to spend some time thinking about what was important for her to get from a college (148). For females, items which correlated most negatively with the ratings of decision confidence referred to the following thoughts and actions: Choosing the college because another person(s) decided to attend it (108); applying to the college based on the belief that if it turned out to be good it just would and there was really nothing that she could do about it (142); choosing a college based on a momentary impulse (115); choosing a college on the spur of the moment (138); choosing the college because her friends decided to attend it (146); making a fast decision to attend the college without thinking much about it (150).

Purchase Decision

For males, items which correlated most positively with the ratings of decision confidence referred to the following thoughts and actions: Describing to someone the specific benefits that he wanted from the purchase (189); inspecting the purchase carefully at the time he was buying it to make sure that it was exactly what he wanted (179); choosing the purchase based on an immediate sense of knowing it would be good (194); describing to someone what he might be giving up immediately by making the purchase at that time (197). For males, items which correlated most negatively with the ratings of decision confidence referred to making the purchase on the spur of the moment (186), and thinking about what future benefits he might get by making the purchase at that time (225).

For females, items which correlated most positively with the ratings of decision confidence referred to the following thoughts and actions: Choosing a purchase based on feeling an immediate sense of knowing the purchase would be good (194); choosing the purchase over other possible purchases because it would provide the benefits which were most important to her (174); inspecting her purchase carefully before buying it to make sure it was what she wanted (179). For females, items which correlated most negatively with the ratings of decision confidence referred to choosing the purchase because another person convinced her it was the right purchase (185), and choosing the purchase based on a spur of the moment impulse (186).

Elective Class Decision

For males, items which correlated most positively with the ratings of decision confidence referred to the following thoughts and actions: Choosing the class because it helped him to meet a goal which he had set for himself (275); obtaining different kinds of information about the class before he made his decision (information search); thinking about the ways in which the class might fit in with his future plans (262); comparing different sources of information about the class before he made his decision (249); thinking that he had to spend time obtaining information about the classes which were available (246); thinking about the benefits which were important for him to get from a class (238); thinking about, discussing with someone, and writing a list of the way(s) in which the class might fit in with his future plans (262 + 263 + 264); comparing two or more classes to find one which would fit in with his future plans (265); asking other people who had taken the class for their opinions about it (236); choosing the class based on a strong gut feeling that it would be good (273); choosing the class based on some vivid impressions and images of how it would be (269); saying to someone that he had to make a decision about which class to take (279); discussing with someone the way(s) in which the class might fit in with his future plans (263). For males, items which correlated most negatively with the ratings of decision confidence referred to the following thoughts and actions: Quickly choosing a class that fit his time schedule (268); choosing a class based on an impulse (271); choosing the class because his friend(s) decided to take it (286); writing a list of the ways in which the class might fit in with his future plans (264).

For females, items which correlated most positively with the ratings of decision confidence referred to the following thoughts and actions: Choosing the class over other possible classes because it would provide the benefits which were most important to her (248); thinking about the way(s) in which that class might fit in with her future plans (262); obtaining different kinds of information about the class before she made her decision (information search); choosing the class based on a strong positive gut feeling that it would be good (273); thinking that she needed to spend some time planning her course schedule (276); asking other people who had taken the class for their opinions of it (236); thinking about, discussing with someone, and writing a list of the ways in which the class might fit in with her future plans (262 + 263 + 264); thinking about and saying to someone that she needed to spend time planning her schedule for the next quarter/semester (276 + 277); comparing different sources of information about the class before she made her decision (249). For females, items which correlated most negatively with the ratings of decision confidence referred to the following thoughts and actions: Choosing the class based on an impulse (271); making a quick decision about the class without thinking much about it (242); choosing an available class and just hoping it would be good because she believed that she couldn't do anything else about it (241); choosing an available class based on the belief that you can't tell whether one class would be better than another without having taken them first (287).

Comparison of Males and Females

Males and females were similar in the following Rational style substeps which were associated positively with the ratings of decision confidence: Define the Problem in the college decision; Establish An Action Plan and Clarify Values in the college and class decisions; Discover Probable Outcomes in the movie, college, purchase, and class decisions; and Eliminate Alternative Systematically in the movie, college, and class decisions. Similarity between males and females was also shown in the Rational style substeps of Establish An Action Plan and Clarify Values in the job decision. These substeps were negatively associated with the ratings of decision confidence for both males and females.

Males and females showed positive associations between the ratings of decision confidence and the Intuitive style thoughts and actions in all five decision situations with one exception. In the college decision

Intuitive item 162 (picturing and imagining the outcome) correlated negatively with rated decision confidence for males, but it correlated positively with decision confidence for females. For males and females, positive associations occurred between the amount of information searched and the ratings of decision confidence in the movie and class decisions.

The Impulsive style thoughts and actions correlated negatively with rated decision confidence for males and females in the movie, college, purchase, and class decisions, but in the job decision Impulsive style item 039 correlated positively with rated decision confidence for males. Item 039 referred to applying for a job immediately without thinking much about it.

Correlation coefficients between the ratings of decision confidence and the Fatalistic style thoughts and actions were negative in the movie decision for males and females. The Dependent style thoughts and actions also correlated negatively in the college and class decisons for females.

Males and females both showed negative correlations between Dependent style thoughts and actions and the ratings of decision confidence in the college decision. Dependent style thoughts and actions correlated negatively with rated decision confidence in the class decision for males, and in the movie and purchase decisions for females.

Consistency in Decision-Making Behavior

The second research question asked how consistent people were in their decision-making behavior across decision situations. It was hypothesized that for each style of decision-making behavior correlations among the three career-related decisions would be higher than the correlations between the career-related decisions and the decisions which were not career-related (Hypothesis 2.1).

Correlations Among Decision Style Scores Across Decision Situations

Pearson Product-Moment correlation coefficients were computed among the five Rational, five Intuitive, five Fatalistic, five Impulsive, and five Dependent decision styles. Consistency in decision-making behavior was judged by comparing the correlation coefficients between the career and non-career decisions. The parentheses contain the correlation coefficients. Table 4 shows the correlation coefficients.

The data tended to support hypothesis 2.1 for the Rational and Dependent decision styles only. For these styles, correlation coefficients were more positive among the career than the non-career decisions. However, the coefficients among the career decisions were not substantially larger than the coefficients between the non-career decisions. The Rational style was somewhat more consistent than the Dependent style.

Correlation coefficients between certain career and non-career decisions were often more positive than coefficients between certain career decisions for the Intuitive, Fatalistic, and Impulsive decision styles. Coefficients for the Intuitive styles were more positive between the college and purchase decisions (.31) and the class and purchase decisions (.35) than the coefficients for the Intuitive styles between the job and college decisions (.23), job and class decisions (.30), college and class decisions (.25). Coefficients for the Fatalistic styles were more positive between the job and purchase decisions (.38), college and purchase

Table 4

Pearson Product-Moment Correlation Coefficients Among (1) the Five Rational, (2) the Five Intuitive, (3) the Five Impulsive, (4) the Five Fatalistic, (5) the Five Dependent Decision Style Scores from the Five Decision Situations

	Job	College	Class	Movie	Purchase
Rational Styles					
Job	1	.35	.40	.28	.25
Class		1	.45	.33	.34
Movie			1	.32	.28
Purchase				1	.23
					1
Intuitive Styles					
Job	1	.23	.30	.20	.23
College		1	.25	.20	.31
Class			1	.17	.35
Movie				1	.13
Purchase					1
Impulsive Styles					
Job	1	.16	.21	.11	.11
College		1	.15	.15	.10
Class			1	.20	.10
Movie				1	.12
Purchase					1
Fatalistic Styles					
Job	1	.33	.34	.25	.38
College		1	.34	.31	.49
Class			1	.31	.42
Movie				1	.28
Purchase					1
Dependent Styles					
Job	1	.26	.29	.17	.18
College		1	.22	.12	.16
Class			1	.20	-.04
Movie				1	.03
Purchase					1

decisions (.49), class and purchase decisions (.42), than coefficients among the career decisions. A coefficient for the Impulsive styles was more positive between the class and movie decisions (.20) than the coefficient between the job and college decisions (.16). The correlation coefficient between the college and movie decisions (.15) was also equivalent to the coefficient between the college and the class decisions (.15).

Greater consistency was shown among the career-related decisions than among the career and non-career decisions for the Rational and Dependent decision styles only. However, for the Rational styles, the correlation coefficients between the college and movie decisions (.33), college and purchase decisions (.34), class and movie decisions (.32), were almost equivalent to the coefficient between the job and college decision (.35). While the Dependent style showed greater consistency across the career-related decisions than across the career and non-career decisions, the coefficient between the college and class decisions (.22) was not much greater than the coefficients which occurred between the job and movie decisions (.17), job and purchase decisions (.18), and the class and movie decisions (.20).

Factor Analysis of Decision Styles Across Decision Situations

Factor Analysis (Statistical Packages for the Social Sciences Program 24, 1975) was used to study the consistency of the five Rational, five Intuitive, five Impulsive, five Fatalistic, and five Dependent decision style scores across the five career-related and non career-related decisions. Appendix A_2 shows the Varimax rotated factor matrix.

Several factor structures showed some degree of consistency for the Rational, Intuitive, and Fatalistic decision styles.

For the Rational styles, greater consistency was shown among the career-related decisions than among all five decision situations. Factor 1 was labeled a Rational style factor. Factor loadings for the Rational styles in the job (.61), college (.64), and class (.66) decisions showed stronger degrees of association with factor 1 than the Rational styles for the movie (.43) and purchase (.50) decisions.

Factor 9 was labeled an Intuitive factor. Consistency was shown across the purchase and class decisions only. The factor loadings for the Intuitive styles in the purchase (.41) and class (.66) decisions showed moderate degrees of association with factor 9.

Factor 12 was labeled a Fatalistic factor. Consistency was shown across the movie, college, purchase, and class decisions. Factor loadings for the movie (.31) and college (.32) decisions showed a low degree of association with factor 12. Factor loadings for the purchase (.43) decision showed a moderate degree of association with factor 12. The factor loading for the class (.78) decision showed a strong degree of association with factor 12. A greater degree of consistency was shown across the purchase and class decisions than among all four decision situations.

Factor Analysis of Decision Styles Within Decision Situations

The previous factor analysis looked at consistency in the degrees to which people used each style of decision-making behavior to make the five decisions. The factor structures were based on the intercorrelations among all 25 Rational, Intuitive, Impulsive, Fatalistic, and Dependent decision style scores. While people may use more or less of specific styles of decision-making behavior to make different decisions, the "relative" relationships among the styles may be similar for different decision situations.

Another Factor Analysis was conducted to investigate the extent to which the relationships among the Rational, Intuitive, Fatalistic, and Dependent decision styles in each decision situation remained constant for the five decision situations. The decision style scores in each decision situation were factor analyzed using Varimax rotation procedures and the resultant factor structures were compared visually across the job, movie, college, purchase, and class decision situations. Table 5 shows the Varimax rotated factor matrix for the five decision styles in each decision situation based on the combined sample of males and females.

The relationships among the five decision styles were not consistent across all five decision situations. However, consistency in factor structures did occur across certain decision situations. The job, movie, and class decisions had factors which were labeled Fatalistic + Impulsive. The job and class decisions contained factors which were labeled Rational + Intuitive. The movie, college, and purchase decisions contained bi-polar factors which were labeled Rational - Impulse. The class, college, and purchase decisions contained factors which were labeled Intuitive + Fatalistic, Dependent + Impulsive. Taking all the factor structures into account, the job decision was most similar to (most consistent with) the

Table 5

Varimax Rotated Factor Matrix for Each Decision Situation Based on the Rational, Intuitive, Impulsive, Fatalistic, and Dependent Decision Style Scores

Deciding on a Job

	Factor 1 (Impulsive + Fatalistic)	Factor 2 (Rational + Intuitive)	Factor 3 (Fatalistic + Dependent)
Rational	-.18	.48	.02
Intuitive	.01	.45	.05
Impulsive	.65	-.18	.11
Fatalistic	.58	.02	.44
Dependent	.11	.05	.44

Factor	Eigenvalue	Percentage of Variance	Cumulative Percentage
1	1.05	63.1	63.1
2	.48	28.9	92.0
3	.13	7.6	99.6

Deciding on an Elective Class

	Factor 1 (Fatalistic + Impulsive)	Factor 2 (Rational + Intuitive)	Factor 3 (Dependent + Impulsive)
Rational	-.19	.54	.06
Intuitive	.23	.48	.00
Impulsive	.50	-.13	.28
Fatalistic	.52	.06	.01
Dependent	.03	.03	.36

Factor	Eigenvalue	Percentage of Variance	Cumulative Percentage
1	.75	50.3	50.3
2	.54	36.1	86.4
3	.17	11.2	97.6

Deciding on a Movie

	Factor 1 (Fatalistic + Impulsive)	Factor 2 (Rational-Impulsive)	Factor 3 (Dependent)	Factor 4 (Intuitive)
Rational	-.05	.57	.07	.18
Intuitive	-.01	.16	-.18	.43
Impulsive	.50	-.47	.23	-.04
Fatalistic	.56	-.03	-.06	.00
Dependent	-.02	.02	.47	-.14

Factor	Eigenvalue	Percentage of Variance	Cumulative Percentage
1	.93	54.4	54.4
2	.40	23.5	77.9
3	.29	16.9	94.9
4	.09	5.2	100.0

Deciding on a College

	Factor 1 (Rational-Impulsive + Fatalistic)	Factor 2 (Intuitive + Fatalistic)	Factor 3 (Impulsive + Dependent + Fatalistic)
Rational	-.65	.15	-.03
Intuitive	-.19	.60	.11
Impulsive	.46	.18	.45
Fatalistic	.37	.51	.33
Dependent	.02	.09	.40

Factor	Eigenvalue	Percentage of Variance	Cumulative Percentage
1	1.17	57.3	57.3
2	.69	34.0	91.3
3	.14	7.0	98.0
4	.04	1.8	100.0

Deciding on an Expensive Purchase

	Factor 1 (Rational-Impulsive)	Factor 2 (Fatalistic + Intuitive)	Factor 3 (Dependent + Impulsive)
Rational	-.61	.04	.08
Intuitive	-.04	.43	.09
Impulsive	.61	.18	.29
Fatalistic	.23	.45	.20
Dependent	.02	.12	.39

Factor	Eigenvalue	Percentage of Variance	Cumulative Percentage
1	.96	62.7	62.7
2	.43	28.1	90.9
3	.12	1.2	98.8

the class decision and the college decision was most similar to the purchase decision.

Relation of Information Seeking to Decision Satisfaction, Importance and Confidence

It was hypothesized that subjects who reported their decisions as being highly important (Hypothesis 3.1); who reported high decision confidence in their decisions (Hypothesis 4.1); who reported high immediate decision satisfaction with their decisions (Hypothesis 5.1); who reported high current (delayed) decision satisfaction with their decisions (Hypothesis 6.1) would have investigated substantially more sources of information than subjects who reported lower ratings on these dimensions in each decision situation.

In each decision situation, t-tests (Walker & Lev, 1969) were performed to determine the statistical significance of the mean differences in information search scores between subjects in the upper 27.5% and lower 27.5% on the ratings of decision importance, decision confidence, immediate decision satisfaction, and current (delayed) decision satisfaction. The .01 level of significance was used to minimize the risks of Type I error because of the large number of t-tests that were conducted. Table 6 shows the results of the t-tests based on the combined sample of males and females.

The data supported hypotheses 3.1, 4.1, 5.1, and 6.1 in some decision situations. Subjects who rated their decisions as being of high importance had significantly higher mean information search scores than subjects who rated their decisions as being of lower importance in the job, college,

Table 6

T-tests of the Mean Differences in Information Search Scores Between Subjects in the Upper 27.5% and Lower 27.5% on the Ratings of Decision Importance, Decision Confidence, Immediate Decision Satisfaction, and Current (Delayed) Decision Satisfaction in the Career and Non Career Decision Situations

Job Importance

	N	Mean	S.D.	t	p
Upper	71	.271	.153	2.49	.006
Lower	70	.212	.135		

Job Confidence

	N	Mean	S.D.	t	p
Upper	74	.233	.164	-.62	.27
Lower	70	.250	.165		

Job Satisfaction 1

	N	$\bar{X}$	S.D.	t	p
Upper	74	.230	.162	0	-
Lower	69	.230	.149		

Job Satisfaction 2

	N	$\bar{X}$	S.D.	t	p
Upper	67	.228	.163	.238	.41
Lower	68	.214	.144		

College Importance

	N	Mean	S.D.	t	p
Upper	68	.408	.212	3.42	.0003
Lower	76	.297	.175		

College Confidence

	N	$\bar{X}$	S.D.	t	p
Upper	75	.356	.172	.854	.197
Lower	81	.331	.194		

Table 6 (Contd.)

College Satisfaction 1

	N	$\overline{X}$	S.D.	t	p
Upper	70	.340	.177	.45	.326
Lower	63	.354	.184		

College Satisfaction 2

	N	$\overline{X}$	S.D.	t	p
Upper	69	.370	.198	.56	.287
Lower	64	.352	.167		

Class Importance

	N	Mean	S.D.	t	p
Upper	79	.245	.209	3.02	.001
Lower	66	.152	.153		

Class Confidence

	N	Mean	S.D.	t	p
Upper	69	.255	.198	4.03	.0004
Lower	70	.134	.156		

Class Satisfaction 1

	N	Mean	S.D.	t	p
Upper	73	.237	.204	1.24	.107
Lower	67	.196	.181		

Class Satisfaction 2

	N	Mean	S.D.	t	p
Upper	76	.256	.197	2.9	.001
Lower	67	.169	.174		

Table 6 (Contd.)

Purchase Importance

	N	Mean	S.D.	t	p
Upper	64	.327	.227	.516	.30
Lower	74	.305	.275		

Purchase Confidence

	N	Mean	S.D.	t	p
Upper	96	.288	.133	.03	.48
Lower	69	.287	.244		

Purchase Satisfaction 1

	N	Mean	S.D.	t	p
Upper	69	.346	.273	2.17	.015
Lower	69	.257	.211		

Purchase Satisfaction 2

	N	Mean	S.D.	t	p
Upper	80	.347	.270	1.18	.119
Lower	38	.288	.246		

Movie Importance

	N	Mean	S.D.	t	p
Upper	72	.319	.219	2.33	.009
Lower	71	.235	.204		

Movie Confidence

	N	Mean	S.D.	t	p
Upper	70	.324	.243	2.51	.006
Lower	62	.230	.186		

Table 6 (Contd.)

Movie Satisfaction 1

	N	Mean	S.D.	t	p
Upper	67	.334	.237	3.06	.001
Lower	68	.225	.179		

Movie Satisfaction 2

	N	Mean	S.D.	t	p
Upper	65	.351	.228	3.64	.000
Lower	71	.225	.174		

class, and movie decision situations. Subjects who reported high ratings of decision confidence in their decisions had significantly higher mean information search score than subjects who reported lower ratings of decision confidence in the class and movie decision situations. Subjects who rated their immediate decision satisfaction with their decisions as being high had significantly higher mean information search scores than subjects who reported lower ratings of immediate decision satisfaction in the movie decision situation. The mean difference in the information search scores between subjects in the upper and lower groups for immediate decision satisfaction was of borderline significance in the purchase decision situation. Subjects who rated their current (delayed) decision satisfaction with their decisions as being high, had significantly higher information search scores than subjects who reported lower ratings of current (delayed) decision satisfaction in the class and movie decision situations.

Sex Differences in Decision Styles

Research question 7 asked what the relationship was between sex of subjects and decision style scores. It was hypothesized (Hypothesis 7.1) that mean decision style scores for males would not differ substantially from mean decision style scores for females in any of the five decision situations. Analysis of Variance procedures (Statistical Package for the Social Sciences Program 22, 1975) were used to test for significant differences between males and females. Since 25 separate tests were performed, the .01 level of significance was adopted to minimize the risks of Type I error. Table 7 presents the results of the Analysis of Variance of decision style scores between males and females in each decision

Table 7

One-Way ANOVA of Decision Style Scores Between Males and Females in Each Decision Situation

Source	N	Mean	S.D.	MSB	MSW	DFB	DFW	F	p
Rational Style (Job)									
Males	78	1.526	.194	.074	.031	1	227	2.4	.12
Females	151	1.488	.166						
Intuitive Style (Job)									
Males	83	1.49	.354	.049	.138	1	244	.35	.55
Females	163	1.46	.380						
Impulsive Style (Job)									
Males	85	1.47	.357	1.17	.128	1	250	9.13	.002
Females	167	1.61	.358						
Fatalistic Style (Job)									
Males	83	1.52	.325	.448	.100	1	246	4.48	.035
Females	165	1.61	.310						
Dependent Style (Job)									
Males	82	1.79	.312	.130	.077	1	246	1.69	.194
Females	166	1.84	.258						
Rational Style (Movie)									
Males	83	1.58	.229	.193	.048	1	246	3.99	.046
Females	165	1.64	.214						
Intuitive Style (Movie)									
Males	85	1.29	.358	1.12	.14	1	250	7.87	.005
Females	167	1.44	.387						
Impulsive Style (Movie)									
Males	84	1.63	.370	.619	.118	1	250	5.24	.022
Females	168	1.74	.330						
Fatalistic Style (Movie)									
Males	85	1.66	.320	.918	.086	1	250	10.65	.001
Females	167	1.79	.290						

Table 7 (Contd.)

Source	N	Mean	S.D.	MSB	MSW	DFB	DFW	F	p
Dependent Style (Movie)									
Males	85	1.44	.412	.713	.176	1	251	4.04	.045
Females	168	1.56	.423						
Rational Style (College)									
Males	83	1.51	.220	.002	.047	1	240	.034	.853
Females	159	1.52	.214						
Intuitive Style (College)									
Males	84	1.40	.341	.029	.114	1	244	.255	.614
Females	162	1.42	.335						
Impulsive Style (College)									
Males	81	1.78	.326	.313	.079	1	241	3.95	.048
Females	162	1.86	.257						
Fatalistic Style (College)									
Males	85	1.68	.314	1.18	.075	1	249	15.71	.0001
Females	166	1.82	.250						
Dependent Style (College)									
Males	83	1.70	.325	.109	.097	1	242	1.12	.29
Females	161	1.75	.304						
Rational Style (Purchase)									
Males	82	1.51	.167	.057	.036	1	248	1.57	.21
Females	168	1.54	.200						
Intuitive Style (Purchase)									
Males	84	1.29	.330	.646	.117	1	249	5.54	.019
Females	167	1.40	.347						
Impulsive Style (Purchase)									
Males	84	1.79	.258	.000	.073	1	250	.003	.956
Females	168	1.79	.277						
Fatalistic Style (Purchase)									
Males	84	1.77	.259	.534	.066	1	246	8.14	.004
Females	164	1.87	.255						

Table 7 (Contd.)

Source	N	Mean	S.D.	MSB	MSW	DFB	DFW	F	p
Dependent Style (Purchase)									
Males	84	1.83	.271	.000	.073	1	251	.001	.977
Females	169	1.83	.263						
Rational Style (Class)									
Males	80	1.46	.209	.017	.039	1	239	.427	.514
Females	161	1.48	.192						
Intuitive Style (Class)									
Males	81	1.44	.332	.093	.103	1	243	.898	.344
Females	164	1.48	.316						
Impulsive Style (Class)									
Males	82	1.84	.288	.068	.067	1	245	1.02	.312
Females	165	1.87	.242						
Fatalistic Style (Class)									
Males	81	1.76	.316	.879	.074	1	241	11.86	.0007
Females	162	1.88	.247						
Dependent Style (Class)									
Males	82	1.77	.300	.467	.069	1	245	6.78	.009
Females	165	1.86	.241						

situation.

The data supported hypothesis 7.1 in some decision situations. While males did not differ significantly from females for decision style scores in most instances, several significant differences did occur. Males had significantly higher Impulsive style scores than females when they decided on a job. Males had significantly higher Intuitive style scores than females when they decided on a movie. Males had significantly higher Fatalistic style scores than females when they decided on a movie, a college, a purchase, and an elective class. Males had significantly higher Dependent style scores than females when they decided on an elective class.

Age and Decision Styles

Research question 8 asked about the relationship of age to decision style. It was hypothesized (Hypothesis 8.1) that subjects of the four age categories would not differ substantially from each other in terms of their mean decision style scale scores in each of the five decision situations. One-Way Analysis of Variance procedures were used to test for the significance of the differences in mean decision style scores between the four age groups in the five decision situations. Table 8 presents the results of the Analysis of Variance. The data generally supported Hypothesis 8.1. However, there were two instances where the four age groups differed significantly in decision style scores. The first instance was the Impulsive style scores in the college decision. Subjects 21-25 years old were more Impulsive in deciding on a college than

Table 8

One-Way ANOVA of Decision Style Scores Between Subjects of Four Age Categories in Each Decision Situation

Source	N	Mean	S.D.	MSB	MSW	DFB	DFW	F	p
Rational Style (Job)									
17-20	121	1.50	.188	.040	.031	3	225	1.27	.284
21-25	30	1.47	.189						
26-30	20	1.45	.160						
31 or over	58	1.53	.150						
Intuitive Style (Job)									
17-20	131	1.50	.368	.114	.138	3	242	.827	.480
21-25	31	1.47	.330						
26-30	19	1.37	.350						
31 or over	65	1.45	.401						
Impulsive Style (Job)									
17-20	134	1.52	.364	.408	.129	3	248	3.16	.025
21-25	32	1.50	.369						
26-30	20	1.72	.379						
31 or over	66	1.64	.338						
Fatalistic Style (Job)									
17-20	131	1.56	.307	.105	.101	3	244	1.03	.377
21-25	32	1.57	.283						
26-30	20	1.55	.329						
31 or over	65	1.64	.350						
Dependent Style (Job)									
17-20	132	1.80	.285	.106	.077	3	244	1.37	.251
21-25	31	1.77	.315						
26-30	20	1.83	.296						
31 or over	65	1.88	.232						
Rational Style (Movie)									
17-20	133	1.60	.215	.091	.048	3	244	1.89	.132
21-25	31	1.56	.254						
26-30	20	1.66	.222						
31 or over	64	1.66	.211						

Table 8 (Contd.)

Source	N	Mean	S.D.	MSB	MSW	DFB	DFW	F	p
Intuitive Style (Movie)									
17-20	134	1.39	.400	.342	.144	3	248	2.38	.071
21-25	32	1.25	.328						
26-30	20	1.35	.333						
31 or over	66	1.46	.373						
Impulsive Style (Movie)									
17-20	134	1.65	.350	.282	.118	3	248	2.38	.069
21-25	32	1.71	.336						
26-30	20	1.82	.315						
31 or over	66	1.76	.335						
Fatalistic Style (Movie)									
17-20	134	1.70	.311	.241	.088	3	248	2.75	.043
21-25	32	1.79	.290						
26-30	20	1.85	.201						
31 or over	66	1.79	.291						
Dependent Style (Movie)									
17-20	135	1.53	.414	.090	.179	3	249	.501	.682
21-25	32	1.44	.435						
26-30	20	1.57	.460						
31 or over	66	1.52	.426						
Rational Style (College)									
17-20	127	1.48	.215	.127	.046	3	238	2.79	.041
21-25	31	1.54	.225						
26-30	20	1.57	.202						
31 or over	64	1.56	.208						
Intuitive Style (College)									
17-20	131	1.40	.336	.076	.114	3	242	.666	.574
21-25	31	1.37	.348						
26-30	20	1.38	.311						
31 or over	64	1.46	.344						
Impulsive Style (College)									
17-20	127	1.86	.242	.289	.078	3	239	3.72	.012
21-25	31	1.68	.380						
26-30	20	1.85	.315						
31 or over	65	1.85	.277						

Table 8 (Contd.)

Source	N	Mean	S.D.	MSB	MSW	DFB	DFW	F	p
Fatalistic Style (College)									
17-20	135	1.76	.282	.100	.079	3	247	1.26	.298
21-25	32	1.73	.299						
26-30	20	1.82	.275						
31 or over	64	1.82	.272						
Dependent Style (College)									
17-20	131	1.73	.292	.195	.096	3	240	2.03	1.09
21-25	32	1.63	.386						
26-30	19	1.81	.300						
31 or over	62	1.77	.306						
Rational Style (Purchase)									
17-20	135	1.54	.187	.012	.037	3	246	.334	.801
21-25	31	1.52	.185						
26-30	20	1.50	.174						
31 or over	64	1.54	.206						
Intuitive Style (Purchase)									
17-20	134	1.33	.331	.285	.117	3	247	2.44	.065
21-25	31	1.33	.333						
26-30	20	1.53	.365						
31 or over	66	1.39	.360						
Impulsive Style (Purchase)									
17-20	135	1.77	.278	.120	.072	3	248	1.66	.177
21-25	31	1.75	.310						
26-30	20	1.77	.244						
31 or over	66	1.85	.235						
Fatalistic Style (Purchase)									
17-20	132	1.80	.278	.172	.066	3	244	2.61	.052
21-25	31	1.84	.226						
26-30	20	1.92	.213						
31 or over	65	1.89	.238						

Table 8 (Contd.)

Source	N	Mean	S.D.	MSB	MSW	DFB	DFW	F	p
Dependent Style (Purchase)									
17-20	136	1.82	.266	.112	.070	3	249	1.60	.189
21-25	31	1.76	.346						
26-30	20	1.90	.219						
31 or over	66	1.87	.226						
Rational Style (Class)									
17-20	128	1.45	.196	.078	.039	3	237	2.00	.113
21-25	32	1.45	.220						
26-30	19	1.47	.194						
31 or over	62	1.52	.187						
Intuitive Style (Class)									
17-20	129	1.44	.320	.163	.103	3	241	1.59	.193
21-25	32	1.44	.321						
26-30	19	1.49	.257						
31 or over	65	1.54	.337						
Impulsive Style (Class)									
17-20	131	1.87	.264	.007	.068	3	243	.107	.956
21-25	31	1.84	.284						
26-30	19	1.86	.256						
31 or over	66	1.86	.242						
Fatalistic Style (Class)									
17-20	128	1.83	.293	.151	.076	3	239	1.98	.118
21-25	31	1.77	.301						
26-30	19	1.82	.302						
31 or over	65	1.91	.217						
Dependent Style (Class)									
17-20	131	1.79	.290	.259	.068	3	243	3.81	.010
21-25	32	1.82	.281						
26-30	19	1.95	.125						
31 or over	65	1.90	.212						

Note: The lowest mean score means greatest use of that decision style.

subjects of the other three age categories. The second significant difference between age groups occurred for the Dependent style in the elective class decision. Subjects 17-20 years old were more Dependent in choosing an elective class than subjects of the other three age categories. Subject 21-25 also differed considerably in their mean Impulsive style scores from subjects 26-30 and 31 or over years old.

Intercorrelations of Ratings of Satisfaction, Importance and Confidence

Research question 9 asked about the relationships among the scales of decision importance, decision confidence, immediate decision satisfaction, and current (delayed) decision satisfaction. It was hypothesized (Hypothesis 9.1) that (1) decision importance would correlate positively with decision confidence in all five decision situations; (2) decision confidence would correlate positively with immediate decision satisfaction in all five decision situations; (3) immediate decision satisfaction would correlate positively with current (delayed) decision satisfaction in all five decision situations. Table 2 shows the Pearson-Product Moment correlation coefficients among the four rating scales in the five decision situations. The coefficients supported hypothesis 9.1. While the coefficients varied in magnitude in different decision situations, the scales of decision importance, decision confidence, immediate decision satisfaction, and current (delayed) decision satisfaction correlated positively with each other in all five decision situations.

Chapter 4A

Summary, Limitations, Implications, and Directions for Future Research

Summary

The purpose of the present study was to discover how the decision-making thoughts and actions of community college students related to their satisfaction with the outcomes of their decisions. On the Decision-Making Questionnaire (DMQ) students answered "yes" or "no" to detailed statements which represented thoughts and actions used to make decisions in five different decision situations: three career choices (job, college, and elective class) and two non-career choices (movie to attend and a major purchase).

The thoughts and actions represented five different decision-making styles: Rational, Intuitive, Impulsive, Fatalistic, and Dependent. The Rational style items represented a systematic method of logical steps for making a decision. The steps included (1) Define the Problem, (2) Establish an Action Plan, (3) Clarify Values, (4) Identify Alternatives, (5) Discover Probable Outcomes, and (6) Eliminate Alternatives Systematically. Intuitive style items referred to basing the decision on "gut feelings", a sense of "rightness", a vivid image, or a general impression about the decision. Impulsive style items referred to making the decision by taking the first available alternative without thinking much about it. Fatalistic style items referred to making the decision by accepting whatever "reasonable" alterntaive chance events produced. Dependent style items referred to basing decisions on what other people did, on what were perceived as other people's expectations, or what someone else said was the right thing to do. In each decision situation, a decision style score was computed for each subject from the individual DMQ item scores representing each style.

In each decision situation, subjects were asked to rate on a 10-point scale (1) the importance of the decision, (2) their confidence in the correctness of the decision prior to experiencing the outcome, (3) their immediate decision satisfaction soon after they experienced the outcome, (4) their current (delayed) decision satisfaction at the time they were filling out the questionnaire. The DMQ also measured an Information Search dimension; the extent to which subjects obtained different kinds of information before they made their final choices.

A first edition DMQ was field tested during the summer of 1977. It was administered to two community college vocational guidance classes. Frequencies of "yes" and "no" responses were calculated for the individual DMQ items. Changes were made in the format and phrasing of certain items to increase the variance.

In the present study, the sample consisted of 255 subjects, 85 men and 169 women (the sex of one subject was unreported) enrolled in vocational guidance classes at three community colleges. The subjects varied widely in terms of their age, academic and occupational backgrounds.

The following list includes the research questions which were examined in the present study. The data analysis method(s) for each question are listed in parentheses: (1) How well do the associations among the items in each decision situation support the original six steps of the Rational style, and the four categories of the Intuitive, Impulsive, Fatalistic, and Dependent styles? (Factor Analysis-Varimax Rotation); (2) Which styles of decision-making behavior are associated most highly with the ratings of decision satisfaction, decision importance, and decision confidence in each decision situation? (Pearson product moment and point-biserial correlation); (3) How consistent are people in their decision-making behavior across decision situations? (Pearson product-moment correlation, Factor Analysis-Varimax Rotation); (4) In each decision situation, will subjects who were highly satisfied with their decision outcomes investigate more information than subjects who were less satisfied? (t-tests); (5) In each decision situation, will subjects who rate their decision as being highly important investigate more information than subjects who rate their decision as being lower in importance? (t-tests); (6) In each decision situation, will subjects who were highly confident in the correctness of their decisions investigate more information than subjects who were less confident? (t-tests); (7) What is the relationship between sex of subjects and decision style? (one-way ANOVA); (8) What is the relationship of age to decision style? (one-way ANOVA); (9) What are the relationships among the scales of immediate and delayed decision satisfaction, decision importance, and decision confidence? (Pearson product-moment correlation).

Results of the data analyses tended to support the following conclusions:

1. In each of the five decision situations, factor analyses identified four factors among the items which corresponded to the original Intuitive, Impulsive, Fatalistic, and Dependent styles. The Rational style items formed two or three factors in the decision situations rather than the original six sub-steps.

2. A consistent pattern of correlations was not found since no composite style of decision-making behavior or individual thought or action correlated significantly (positively or negatively) with the

ratings of decision satisfaction, importance, and confidence across all decision situations. The magnitude of the correlation coefficients varied with the individual decision situation and was not consistent for either the career or non-career decision situations. However, the following thoughts and actions showed the strongest degrees of correlation with the four ratings at least twice for males or females in the five decision situations:

Strongest Positive Associations with immediate and current (delayed) decision satisfaction

- Comparing alternatives to obtain the most desired benefits
- Feeling a strong sense of assurance that the choice was right
- Obtaining different kinds of information about alternatives
- An immediate sense of knowing the choice was right
- Studying the alternative(s) carefully
- Planning periods of time to work on the decision
- Making a list of desired benefits

Strongest Negative Associations with immediate and current (delayed) decision satisfaction

- Making a fast decision without thinking much about it
- Choosing because another person made that choice

Strongest Positive Associations with decision importance

- Choosing the alternative because it would help him/her achieve a goal
- Thinking about why this decision was important to make
- Thinking about what he/she might be giving up immediately

- Determining what benefits he/she desired
- Obtaining different kinds of information about the alternatives
- Determining how well each alternative would give him/her what he/she wanted
- Eliminating alternatives by comparing alternatives
- Comparing alternatives to find out which one would provide the most desired benefits
- Feeling an immediate sense of knowing the choice was right
- Good gut feelings about the choice

Strongest Negative Associations with decision importance

- Waiting for an alternative to come along
- Making a fast decision without thinking much about it
- Choosing what was available and hoping it would work out

Strongest Positive Associations with decision confidence

- Feeling an immediate sense of knowing the choice was right
- Choosing an alternative because it would help him/her achieve a goal
- Comparing alternatives to find out which one would provide the most desired benefits
- Obtaining different kinds of information about the alternatives
- Studying the alternatives carefully

Strongest Negative Associations with decision confidence

- Making a decision based on a momentary impulse
- Making a spur of the moment decision

- Choosing an alternative because another person had chosen it

- Choosing an alternative and hoping it would work out

3a. Subjects tended to be more consistent across the five decision situations in their use of the Rational and Fatalistic styles of decision-making behavior than in their use of the Intuitive, Impulsive, and Dependent decision styles.

3b. The Rational and Dependent styles of decision-making were more consistent across the career-related decisions than across the non-career-related decisions.

3c. The pattern of associations among all five decision styles was most similar in the job and elective class decision situations, and in the college and purchase decision situations.

4a. In their choices of a movie, subjects who reported higher immediate decision satisfaction obtained more information prior to making a decision than subjects who reported lower immediate decision satisfaction.

4b. In the college and movie decision situations, subjects who reported higher current (delayed) decision satisfaction obtained more information prior to making a decision than subjects who reported lower current decision satisfaction.

5. In four of the five decisions (job, college, class, movie), subjects obtained more information prior to making a decision when they rated their decisions as more important.

6. In the class and movie decisions, subjects who reported high decision confidence obtained more information prior to making their decisions than subjects who reported lower decision confidence.

7a. Males were more Impulsive than females in the job decision situation.

7b. Males were more Intuitive than females in the movie decision situation.

7c. Males were more Fatalistic than females in the movie, college, purchase, and elective class decision situations.

7d. Males were more Dependent than females in the elective class decision situation.

8. Subjects of the four age categories generally did not differ substantially in the extent to which they reported using the five styles of decision-making behavior in each of the five decision situations.

9. For both males and females, the scales of immediate and current decision satisfaction, decision importance, and decision confidence were positively associated in each of the five decision situations, although the magnitude of the correlations varied considerably across decision situations.

10. Some interesting trends can be identified by comparing the means of decision style scores. These comparisons were not hypothesized in advance nor subjected to statistical tests of significance.

They are offered here only to whet the curiosity of the reader who may be interested in whether the mean differences make psychological sense.

10a. Males were more rational in the class, purchase, and college decisions than in the job or movie decisions. While it might have been expected that males would show a higher degree of rationality in choosing a job than they did, their lower degree of rationality in choosing a job is understandable. The majority of males were young men who may have been working at temporary or part-time jobs to support themselves through school. It is understandable that they would have accepted employment whenever and wherever they could without going through an elaborate systematic process.

10b. Males were more impulsive in choosing jobs and movies than in choosing colleges, classes, and purchases.

10c. Males were more intuitive in the non-career decisions than in the career-related decisions.

10d. Males were more fatalistic in the job and movie decisions than in the college, class, or purchase decisions.

10e. Males were more dependent in the college and movie decisions than in the class, job, and purchase decisions.

10f. Females were more rational in the career-related decisions than in the non-career decisions.

10g. Females were more intuitive in the purchase, college, and movie decisions than in the job or class decisions.

10h. Females were more impulsive in the job and movie decisions than in the purchase, college, and class decisions.

10i. Females were more fatalistic in the job and movie decisions than in the college, purchase, and class decisions.

10j. Females were more dependent in the movie and college decisions than in the purchase, job, and class decisions.

Limitations

Although the associations between decision styles and decision satisfaction may not have been as strong as is often assumed, there may have been some reasons why the correlations were not of greater magnitude in this study. One reason is that the magnitude of the associations may have been lowered to some extent due to unreliability of measurement. Some subjects may have had difficulty recalling their thoughts, actions, and perceptions of decision satisfaction for decisions which they had made some time in the past. Difficulty remembering exactly how satisfied they were, or what they thought about or did when they made a decision, may have decreased the reliability of measurement of these variables.

A second reason is that decision-making behavior was assessed after subjects had experienced the outcomes of their decisions. This method of assessment may have led to inaccuracy in some subjects' reports of what they did when they made decisions. Since decision style and decision satisfaction were assessed some time after the decisions were made, it seems possible that subjects' memories of the decision process may have been influenced by the outcomes of their decisions. For example, a subject may have used a number of Rational style thoughts and actions which led to a good gut feeling about the final choice. If the decision outcome was satisfying, the most salient memory may have been the good gut feeling and not the complete sequence of Rational style thoughts and actions which occurred before the feeling. Research which measures decision styles while decisions are being made and decision satisfaction shortly after decisions have been made may provide more reliable and valid estimates of the strength of association between various decision styles and perceived decision satisfaction.

A third reason is that the low to moderate correlation coefficients obtained in this study may accurately reflect the fact that decision style is only one of many variables which contributes to a subject's perceived decision satisfaction at any given time. Research reviewed by Janis and

Mann (1977) suggested that a person's perceptions of decision satisfaction may vary over time due to the influence of cognitive strategies which people use ot resulve post-decisional regret.

A fourth reason is that factors which are specific to the decision situations may have influenced the relationships between different styles of thoughts, actions, and perceived satisfaction. In the major purchase decision, for example, one subject may have had in mind an automobile purchase while another was thinking of a vacation tour package. It seems reasonable to assume that decision situations may vary on a number of dimensions such as accessibility of information, time constraints, possibility of negative consequences, the number of values to be considered, the effects of positive and negative outcomes on other people, and potential effects on subsequent decisions. Because the characteristics of decision situations may vary widely, thoughts and actions which lead to satisfaction for one decision may not be the same thoughts and actions which are necessary to achieve satisfaction for another decision.

A fifth reason is that the correlations between the ratings of decision satisfaction and the styles of thoughts and actions may have been influenced by psychological factors such as social desirability (response sets to make the respondent "look good") or acquiescence (the tendency to mark "yes" regardless of the item content). For example, in decision situations perceived by many people as being very important (e.g. choosing a college), some subjects may have reported using Rational style thoughts and actions even though they did not engage in them. These subjects may have wanted to appear as having behaved in the most socially desirable or appropriate manner when making their decisions. It is also possible that some subjects marked yes frequently to items when they were not sure whether or not those items actually represented what they did when they made their decisions. The tendency to mark yes when in doubt could affect the correlations between the subjects' ratings of satisfaction and their scores for the decision styles and the individual thoughts and actions (Nunnaly, 1978).

A final reason is that self-reports of some subjects may have been influenced by their causal attributions (to themselves or external factors) for decision outcomes (Jones, Kanouse, Kelley, Nisbett, Valins, & Weiner, 1972). It is possible that subjects who experienced very satisfying decision outcomes may have attributed credit to themselves for creating the positive outcomes. Their attributions of credit may have prompted them to report thoughts and actions which showed involvement and responsibility in the decision process (e.g. Rational or Intuitive style thoughts and actions). It is also possible that subjects who experienced dissatisfying decision outcomes may have wanted to attribute causes for the outcomes to factors other than themselves. Attributions of causality to other people, chance events, or situational factors beyond their control, may have prompted them to minimize their involvement in the decision-making process by marking Dependent, Fatalistic, or Impulsive style items. The correlations between the subjects' ratings of decision satisfaction and their scores for the decision styles or individual thoughts and actions could have been affected by the subjects' attributional processes.

Implications

The findings of the present study have implications for counselors, educators, and others whose concerns are finding ways to help people make satisfying decisions. A general assumption has been that people should use a Rational approach in order to make good decisions. While certain Rational style thoughts and actions were associated positively with decision satisfaction in each decision situation, the findings suggest that consideration should also be given to Intuitive style thoughts and actions. Although Rational and Intuitive approaches have typically been viewed as contrasting styles, the present study indicated that these styles are not necessarily incompatible approaches to decision-making. Because the present research involved only five decision situations, it is premature to advocate any style(s) of decision-making behavior to use for all decisions. Even so, it seems reasonable that a combination of Rational and Intuitive style decision-making behaviors may lead to greater decision satisfaction than the Impulsive, Fatalistic, and Dependent decision styles for most important decisions.

The current findings suggest some specific things to do and to avoid doing when making decisions similar to the ones presented in the study. Those specific behaviors are listed below. A thought or action is coded M, F, or M & F if it was associated with decision satisfaction for males only, females only, or for both males and females, respectively.

College Decision

Positive Associations

- Choosing a college which would provide the most desired benefits by comparing among colleges (M & F)
- Choosing a college based on a strong sense of assurance that the choice was right (M & F)
- Obtaining different kinds of information about the college before making the decision (M)
- Setting aside periods of time for obtaining information about the possible colleges (F)
- Choosing a college based on good feelings, images, and impressions about the final choice (M & F)

Negative Associations

- Making a quick decision to enroll in the college without thinking much about it (M & F)
- Choosing the college because his/her friends decided to attend (M & F)

Job Decision

Positive Associations

- Choosing a job based on an immediate sense of knowing the job was the right choice (M & F)
- Making a final choice after comparing the possible jobs (F)
- Choosing a job based on some positive gut feelings about the job (F)

- Talking to people familiar with the possible jobs to determine how well they would provide the desired benefits (F)
- Choosing a job by eliminating the least desirable jobs (F)

Negative Associations

- Making a spur of the moment decision to take a job (F)
- Being convinced by a friend to take a job (F)

Class Decision

Positive Associations

- Studying the course catalog for classes that would provide the desired benefits (M)
- Comparing classes to determine which one would provide the most desired benefits (F)

Negative Associations

- Making a decision quickly without thinking much about it (M & F)
- Choosing a class because friend(s) decided to take it (M & F)
- Choosing an available class by trusting in luck and hoping for the best (F)

Movie Decision

Positive Associations

- Choosing a movie based on an immediate sense of knowing the movie would be good (M & F)

- Comparing movies to determine which one would provide the most desired benefits (M & F)
- Obtaining different kinds of information about the movies before making the decision (M & F)
- Choosing a movie based on some strong images and impressions about the movie (F)

Negative Associations

- Making a spur of the moment decision (M & F)
- Picking an available movie and just hoping it would be good (M)
- Considering the cost of the movie (M)
- Thinking how much time there was to make the decision and the best method of deciding within the time limit (F)
- Choosing the movie because another person convinced her to see it (F)

Purchase Decision

Positive Associations

- Carefully inspecting the purchase to make sure it was what she wanted (M & F)
- Choosing the purchase based on an immediate sense of knowing the purchase would be good (F)
- Comparing possible purchases and choosing the one which would provide the most desired benefits (F)
- Obtaining different kinds of information about the purchase before making the decision (F)

Negative Associations

- Making a spur of the moment decision to purchase (M & F)
- Making the purchase because another person convinced her to buy it (F)

Directions for Future Research

The DMQ may be modified to assess a wider range of Rational style decision-making behaviors. The Rational style strategy in the present study represented only one of many possible forms of rationality. The strategy assumed that rational deciders made decisions by proceeding systematically through a sequence of logical steps when they made decisions and that rational deciders eventually selected, from a number of alternatives, a final choice with the highest payoff in desired benefits. While this strategy may represent how people make some decisions, the addition of other rational approaches would be a more thorough representation of what is meant by rationality in decision-making. The following strategies are some examples of alternative representations of rationality which might be used in future editions of the DMQ: Miller's and Starr's (1967) "suboptimizing" strategy suggests that a person maximizes some of his/her desired benefits at the expense of losing some others; Herbert Simon's (1976) "satisficing" model suggests that for many decisions, people look for an alternative which is "good enough". Simon asserts that people often choose alternatives sequentially without generating a list of alternatives or comparing among a group of alternatives. Instead, alternatives are considered one at a time until an alternative is found that meets a minimal set of requirements; Alexander George (1974) discussed a "quasi-satisficing" model. Deciders using this model look for an alternative by following one simple decision rule (e.g., choose the alternative that worked the last time you encountered a similar decision); Miller and Starr (1967) also discussed a decision-making strategy called "incrementalism" where a major choice is the result of a sequence of decisions made according to a satisficing strategy; Tversky (1972) described a decision-making strategy called an Elimination-by-Aspects approach. Deciders using this approach perform a sequence of actions. First they create a small number of decision rules which refer to the minimal requirements of the most desired benefits. Second, they use a progressive narrowing-down process to select, from a pool of possible alternatives, a final choice which meets the requirements set forth in the decision rules. A more extensive survey of rational decision-making behaviors may indicate which rational behaviors are associated with high decision satisfaction for which kinds of decisions.

A second direction for future research is to study the relationships between decision satisfaction and other cognitive factors which might describe what satisfied decision-makers do when they make decisions. For example, do highly satisfied decision-makers differ from less satisfied decision-makers on variables such as the kinds of self-statements they make, the assumptions they examine, how they evaluate the reliability and validity of information, or how they use information? Correlations between measures of these variables with ratings of decision satisfaction may provide knowledge about the kinds of cognitive behavior satisfied decision-makers perform.

A third direction for research is to study the relations between the feelings, images, and self-statements people experience when they make decisions and the styles of decision-making behavior they use to make decisions. Correlations between measures of decision-making behavior and feelings, images, and self-statements assessed while people were making decisions might help us to understand the motivational bases which underlie certain actions that people perform when they make decisions. For example, a man deciding which car to buy may generate an exciting image about himself in a sports car which he had seen. This image may motivate him to start considering sports cars as possible choices. Research focused on the feelings, images, and self-statements used by successful decision-makers may provide knowledge about the types of feelings, images, and self-statements which contribute to satisfying decision outcomes.

A fourth direction for future research is to study the methods that people use to arrive at their estimates of decision satisfaction. It seems likely that the method used to estimate decision satisfaction may influence the degree of relationship between a style of decision-making behavior and subjects' ratings of decision satisfaction. Subjects could be administered the DMQ while they were making decisions, asked to give a rating of decision satisfaction shortly after they experienced their decision outcome, and then be interviewed about how they arrived at their estimates of satisfaction. For the same decisions, correlations between styles of decision-making behavior and decision satisfaction could be computed for groups of subjects who used a similar method to estimate decision satisfaction. Examples of methods used to evaluate decision satisfaction may include strategies such as comparing how well the decision outcome provided the most desired benefits or a global judgment based on feelings about the outcome.

A fifth direction for future research might involve a repeat of the present study with the following revisions: The DMQ could be revised to include more rational decision strategies; the individual DMQ items could be written so they would be applicable to most decisions; the DMQ could be administered to subjects while they were making decisions or shortly after making decisions; ratings of decision satisfaction might also be obtained shortly after subjects experienced the outcomes of their decisions. Administering the DMQ closer to the time when people make their decisions may provide more reliable assessments of the thoughts and actions they actually use to make their decisions.

A final direction for future research involves the use of a revised DMQ as an evaluation instrument for career guidance programs. Students in these programs might be expected to show more frequent use of thoughts and actions showing thoughtful deliberation, goal setting, and planning in their subsequent career decisions. They might be expected to show a low frequency of thoughts and actions related to Impulsive, Fatalistic, or Dependent decision styles. Students in these programs might also be expected to be highly satisfied with the outcomes of their subsequent career decisions. A revised DMQ might eventually serve as a useful criterion instrument for evaluating career education and vocational guidance programs.

PART B

EXPERIMENTAL STUDY: THE EFFECT OF TEACHING A SYSTEMATIC DECISION-MAKING PROCEDURE ON DECISION-MAKING ABILITY

Chapter IB

The Problem

How can people make better decisions? Underlying that question is the assumption that decisions vary in quality. We assume that there are such things as "good" decisions or "bad" decisions. Certainly we have all heard people make statements that imply that there is a quality component to decisions. For example: "My decision to sign that contract without reading it was a serious mistake;" "She sure made a smart decision when she bought Xerox stock in 1954;" or "Your decision to marry Homer was the best thing you've ever done." Clearly, people do evaluate the quality of decisions.

But on what basis are these decisions evaluated? On what kind of evidence does one decide that any given decision is good, bad, or mediocre? We can distinguish three rationales for evaluating decisions:

1. Adherence to a prescribed process. A good decision may be described as one that follows certain procedures alleged to be efficacious. Thus, for example, those who have advocated a systematic rational decision-making process for making career decisions would tend to approve the career decision of a youngster who systematically considered her values, generated extensive lists of alternatives, thoroughly investigated the possible outcomes of these alternatives, and systematically eliminated the least desirable alternatives until a tentative choice was reached. The very fact that this elaborate process had been used would, by definition, make the resulting decision a good one. Another evaluator might presuppose that good decisions depend upon the extensive use of prayer. Thus any individual

who prayed extensively about a decision before making it would be considered to have made a wise decision. Those who advocate a more dependent approach to decision-making problems might offer advice such as "always obey your parents." Thus, a child who had decided to follow the orders of her parents would be said to have made the right decision regardless of any consequences. The World War II Nazis who were accused of war crimes, for example, used the excuse that they were only obeying orders as a way of absolving themselves from responsibility for the acts that they committed. In essence they were claiming that the process that they used for making their decision, obeying orders, should be the basis for evaluating the soundness of their decision.

2. Adherence to a process that produces positive outcomes on the average. In some situations we have enough accumulated experience to know the probability that a certain action will yield certain results. While playing "Blackjack" or "21" in professional gambling circles, the dealer always "decides" to "hit" on 16 and "stay" on 17. The decision is automatic because long experience has proven that the dealer will maximize winnings by following that strategy. On any given deal the dealer may well lose by following that strategy, but the decision is evaluated by the outcome over repeated trials, not by what happens during a single deal.

In the game of baseball, a batter with three balls and no strikes may be signaled by the manager to "take" the next pitch, that is, not to swing no matter whether the pitch is in the strike zone or not. The batter who decides to swing at the pitch under those circumstances is said to have made a bad decision, and may be punished for it even if he hits a home run. The decision is "bad," regardless of its outcome on this one occasion, because past experience indicates that under those circumstances a batter is less likely to get on base swinging than not swinging.

In career decision making we find people who decide to accept a job and later regret the decision. Yet at the time the decision was made all the indications were that it was the best possible choice. Unforeseeable events later produced some negative consequences. However, the decision maker might be able to say, "I still made the best decision possible at the time. If I had to do it all over again, I'd still make that same decision even though it didn't work out well in this particular instance." Hence, decisions may be justified by adherence to a process known to produce positive consequences in the long run, even though the decision might well produce negative consequences in any one given instance.

3. Positive outcomes. A decision may be judged good if it produces desirable consequences. Each individual decision can be evaluated by the consequences which follow from it. The process used to make the decision then becomes irrelevant. Thus a person might say "I decided where to go on my vacation by blindfolding myself and throwing a dart at the map. I had a wonderful time. It was a good decision." The decision was judged good because the consequences were desirable; the method of making the decision was irrelevant.

In tennis doubles, hitting the service return down the alley is known as a low percentage shot because it usually does not result in winning the point. However, in those instances where it does work out successfully it is known as a smart decision. Each decision is evaluated by its consequences, not by whether it is successful on the average.

In a sense all three of the rationales are based on outcomes either known or assumed to exist. Adhering to a prescribed process is justified ultimately by consequences believed (perhaps without evidence) to follow. The rational systematic decision-making process is considered to be a good process because scientists and business leaders use it and often get good results. Advocates of prayer believe that answers and benefits flow to its users. Advocates of obedience believe that people will be safer and happier obeying than not obeying. The process is not evaluated by its outcomes, but the process is justified because of presumed benefits. Both the second and third rationales clearly specify outcomes as the criterion for judging decision quality. The second rationale uses average outcomes whereas the third rationale uses the specific outcomes of a given instance.

The present study is concerned with the question: What is the best way to make a decision? In order to evaluate a procedure for making decisions, we must have some criterion against which to evaluate it. We cannot evaluate a decision-making procedure simply by ascertaining how rigorously the procedure has been followed. We must instead ask which decision-making procedures are most successful in producing optimum outcomes. Consequently, we have eliminated the first alternative rationale for evaluating decisions.

We have derived a definition of a good decision as follows: A good decision is one which yields consequences consistent with the values of the decider. In this definition we have opted for the third rationale for judging decisions -- namely the consequences flowing from each individual's decision. However, we intend to aggregate the outcomes of our subjects' decisions to determine the procedure that works best on the average. Our criterion then is a combination of the second and third rationales, both of which, however, are clearly based on consequences. We are following the biblical dictum, "The tree is known by his fruit." (Matt. 12:33)

Assessing Career Decision Making

Evaluating the outcome of a given decision is difficult. A decision, unlike a problem, cannot be "solved": it can only be made. There is no "right answer" at the end of the decision rainbow.

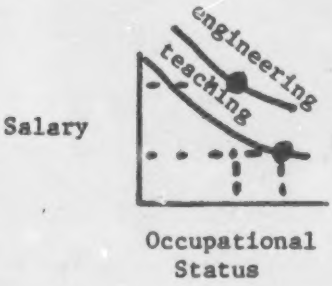
Career decision-making is even more complex because of the life-long nature of the process. Decisions regarding occupation are not simple like those one faces while shopping at the grocery store. The result of choosing a main course for a meal is far more evanescent than the outcome of selecting a life vocation. Nor are the effects of career decisions as circumscribed as the choices we make in other areas. Decisions we make in high school regarding a future career often resonate throughout our lives.

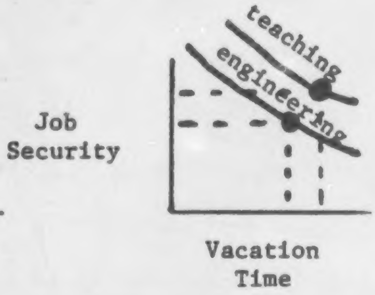
Career decisions are exceedingly individual in nature. Which alternatives we choose as life goals are affected by our own value hierarchy. Values which are essential to one person may not be important to another.

We cannot generalize across people to conclude that a specific occupational choice is the best decision for all. We must look at present alternatives in the light of each person's decision history and individualized objectives. A career decision could not be evaluated without a careful analysis of individual abilities, needs, values, goals and opportunities.

The term "analysis" does not imply, however, that conclusions can be arrived at by applying a mathematical formula. Although career decision making is a complex process which requires consideration of many factors, it cannot be simplified so readily. In occupational choice behavior, there is an emotional element which confounds an attempt at applying formulas to objectify our choices. Emotion transforms universal equations into multiple variations, depending on the person and circumstances. Probability figures tell us the liklihood of attaining future goals based on the average of past performances if we make certain assumptions. They offer factual data upon which we can judge alternatives. However, probability figures are often poured through the decision-maker's personal desires sieve. What results from this sifting are subjective probability figures. Events which are more desirable are perceived as more likely to occur. Events which have low probabilities of occurrence take on much higher subjective desirability (Gelatt, 1966). Not only does subjective desirability affect career decisions, but there is evidence that other personality variables such as fear of failure, level of anxiety, amount of self confidence, ego identification with choices, independence, and propensity for taking risks also thwart our attempts to make "objective" decisions (Appel and Witzke, 1972).

Since career decision-making is further complicated by the fact that it involves more than a simple judgment along one value dimension, multiple values must be considered and ranked. Alternative choices must be weighed according to these values. The most satisfying choice is not necessarily the one which scores highest on the top ranked value. The optimal alternative may be one which yields the most of one's more important values. Career options are multi-faceted and multi-dimensional and must be analyzed and compared in these terms. A satisfying decision requires configural, rather than linear thinking, with repeated weighings of constellations of options against one another to determine which offers the greatest net value (Kaldor and Zytowski, 1969). Suppose a young man desires a high salary, high occupational status, maximum vacation time, and job security in that order. Suppose also that he has identified engineering and teaching high school math as two areas of interest. His analysis might look like this:





Since teaching shows a moderately high score on three variables, occupational status, vacation time, and job security, our decision-maker must determine whether the significantly higher salary he will earn as an engineer (his top value) makes sacrificing the other three values worthwhile.

The difficulty people experience making career decisions becomes understandable when we realize that the above example involves comparing only two career options on only four value dimensions. Many occupational decisions involve both more alternatives and more extensive value hierarchies.

Risk and uncertainty are two more factors which must be considered if we are to appreciate the complexity of career decision making. Often we must make occupational choices on the basis of incomplete information. Sometimes the possible consequences of our actions are known and the probability of any given option occurring is also known. What is not known in this case, however, is which consequence will in actuality occur. Without this information, we are taking a risk that desirable consequences will result from our actions, rather than undesirable ones. There are times, however, when we do not know all the ramifications of our decisions, nor do we know what the probability is of any of these various consequences occurring. In this case, our lack of knowledge requires us to make a decision in the face of uncertainty. Since there are numerous contingencies in our lives which we cannot control or foresee, risk and uncertainty play a major role in the decision-making drama.

Career decision-making, then, emerges as a lifelong process involving the configural interaction of the individual's valuation of the rewards offered by different occupational choices and his subjective assessment of his chances of being able to realize each of the choices (Egner, 1974). Although numerous authors have described this complex process and the steps one takes to arrive at career decisions, few have been concerned with developing diagnostic measures to assess a person's decision-making abilities or instructional techniques to teach these skills. Various tests, inventories, and questionnaires are presently in use to measure career awareness, vocational maturity and self appraisal skills, but few are available which measure and/or teach the career decision-making process itself.

Research on Educational Simulations

The process of making occupational choices has been described by some authors as the putting on of different occupational persona to explore various alternatives. In this process people imagine themselves in a number of occupations while evaluating the consequences they believe may follow from each (Kaldor & Zytowski, 1969). If this is an accurate depiction of career decision making, then simulation may be an appropriate assessment device. Examining several elements of simulation demonstrates its effectiveness in this realm. First, by its very nature, simulation requires the players to take on roles, imagine themselves in different situations, act out how they might respond, and experience how they might feel. Further, a simulation demands that the persons interacting with it actually demonstrate behavior being assessed. There is some evidence that vocational maturity is related to imaginative thinking (Howard, 1973). This close correlation between the actual process of career decision making and the basic characteristics of simulations points to a profitable marriage of the two.

Simulations have been shown to be good devices to measure complex human behavior in that they require the person interacting with them to actually demonstrate the behavior being assessed. There is some evidence that interviews and paper and pencil tests do not accurately tap decision-making skills (Tallman & Wilson, 1974). They test cognitive rather than behavioral indications of the skill. One may very well be able to verbalize the steps in a decision-making process without using the process to solve career decisions. In addition, preliminary data show that students report possessing rational decision-making skills on pretest questionnaires while posttesting reveals that they subsequently acquired these skills (Miller, 1974). Simulations resolve this discrepancy between the cognitive and behavioral aspects of decision-making. By building several variables into the simulation task, the designer has allowed for the assessment of actual decision-making under lifelike conditions: pressures of time, lack of information, uncertainty, values in conflict (Boardman & Mitchell, 1971). Such an assessment of people making decisions closely linked to those they face in everyday life results in a more accurate and thorough diagnostic picture. If these variables are presented at different times, in response to the performance of the student, the simulation also provides a highly individualized profile of the decision-making behavior (Meckley, 1970).

Simulation, because it is a model of a process itself, is an especially useful tool to test the acquisition of a concept, principle or process (Robinson, 1966). If one is interested in determining whether a person knows typical work hours, education requirements, and beginning salary for a specific job, then these facts may be cost-effectively tested using a paper and pencil quiz. However, if one is more concerned with how the decision-maker uses these facts to reach an occupational choice, than a simulation would be a more effective and efficient measurement tool (Twelker, 1971). Career decision making is a conceptual framework one uses throughout life, not a set of facts applied at discrete decision points. Simulation is well-suited to portraying this framework.

Simulations also have an advantage over traditional testing procedures in that they can compress time, requiring the person to make many decisions in a short session. The more decisions that are made, the more valid and reliable is the decision strategy that emerges. Simulations have been shown to be good measurement tools for personality research because they are short, well-defined, tightly controlled, yet meaningful testing situations (Harris, 1971). These same characteristics could prove highly advantageous for career decision-making research, also.

Although the evidence that simulation can be used successfully as a diagnostic/assessment/evaluation device is good, research supporting the instructional benefits of simulations is overwhelming. Instructional games seem to be successful for two reasons. First, they motivate pupils, and second, they incorporate many basic learning principles.

A great deal of the motivational strength of the simulation lies in its ability to encapsulate real world problems (Curry, 1971). A major complaint one hears from pupils today is that their education is not relevant, that it does not speak to the problems they face in the world outside of school. A simulation is by definition a model of a real world process. To the degree that pupils are interested in the process being simulated, they will become involved in the learning game. Research shows that non-achievers with above average ability who rebel at traditional academic instruction learn substantial amounts from simulated instructional tasks (Farran, 1968). These pupils often believe the goal of the game is to meet the objective as designated in the rules, not to learn. Simulations are so different from conventional teaching techniques and so in touch with the outside world that they are not construed as part of the academic arena. From the novelty of their learn-by-doing approach, simulations gain motivational strength.

A concomitant to the novel aspect of simulations and another reason for their motivational impetus is the excitement they create during the learning process. Research with under-achievers (Farran, 1967) as well as with preschool children (Crawford & Twelker, undated) shows that attention spans during game activity increase substantially. Four-year-old children are attentive up to 30 minutes while involved in simulated tasks. Other researchers have shown substantial gains in GPAs using college level simulations (Garvey, 1971) and have attributed the increase to the fun and interactive aspects of the gaming technique.

However, despite their light approach to learning, simulations often instill in pupils a strong desire and active readiness to learn. This is because simulated tasks can bring meaning and purpose to an otherwise incomprehensible future (Varenhorst, 1973). In "real life," consequences are often times very distant from the actions which produced them. It is difficult for many to make the conceptual link between what they do today and what results in the future. However, because of their compressed time frame, simulations offer the role player almost immediate feedback about the consequences of decisions. Bridging the time gap as they do, simulations provide the learner with a basic understanding of the cause and effect relationship in career decision-making. Acquiring this insight, pupils realize the importance of focusing on the long-range planning aspect of decisions (Ehrle, 1970). They frequently become highly motivated to learn career awareness information such as educational requirements for specific jobs since this information no longer exists in a meaningless vacuum, but has direct bearing on their present choices.

In addition to their strong motivational element, simulations are successful teaching tools because they often embody human learning principles such as successive approximations, reinforcement, guided practice, overlearning and generalization.

Simulation designers choose how closely their task will model reality. They decide which elements of life to include in the simulation and which are irrelevant and to be omitted. They are given license to include, exclude, and exaggerate the real life process through their choice of rules, scoring systems, goals, resources, and roles for the game (Twelker, 1971). The designers may begin by producing a highly simplistic simulation for beginning students of the process. Gradually, they may require them to consider an increasingly greater number of variables in their decisions by systematically building in these new factors. The end goal is to create a game which simulates the real life process in all its complexity. In this manner, the designers incorporate the principle of successive approximation into the simulation.

Simulations can also embody another learning principle, that of reinforcement. They provide quick and comprehensive feedback as to the consequences of a given decision, usually in quantifiable terms. The role player learns which "moves" or decisions lead to the awarding of points, the gaining of extra turns, and ultimately, the winning of the game. Rules provide a consistent and fairly applied reward system for the learner which often results in rapid learning of desired behaviors.

Another possible reason for the efficiency of the simulation as a teaching tool is that it provides the learner with an opportunity for massed practice in the behaviors being taught. Within the course of one game hour, a pupil may be given many opportunities to practice decision-making skills (Spangenberg, 1975). This practice, occurring as it does in the controlled environment of the simulation is guided toward correct performance of decision-making behavior. Research shows that directed practice may well be an essential variable in decision-making instruction (Evans & Cody, 1969). Many of the errors which normally occur during the process of acquiring decision-making skills are eliminated by the game design itself (Twelker, 1971). Because it is a model of the system it represents, the game allows the learner to commit those inevitable learning errors in a safe environment without incurring the harmful effects such decisions might have caused in the real world. This is especially important when we consider that career decisions are often the most weighty, major ones we make in our lives. Practicing career decision-making in the real world could have harmful effects. Yet, the necessity for overlearning such a complex cognitive and behavioral skill is obvious. The directed practice offered by simulation experiences is an important component in their success.

Simulation can also create an efficient and effective means of ensuring that learned career decision-making skills are transferred to the real environment. Since a simulated task is an analogous situation containing many of the characteristics of the outside world, skills one acquires performing such a task can be used to meet the contingencies arising later in one's life. One author describes the transfer of training process by explaining that the realistic visual and sensory stimuli of simulated tasks provide the backlog of experience which one can draw upon for appropriate responses (Ehrle, 1970). As long as there is variety in the decision situations being simulated, the student will learn how to use decision-making skills to make career choices of many types. If the game designer has been successful in this respect, and the player has performed well in the various simulation exercises, generalization of performance to the real world is likely to occur.

In summary, theoretical and practical research supports the use of simulation as an assessment/diagnostic/evaluation tool and as an instructional technique. Major strengths have been identified in its learn-by-doing approach, its lifelike and non-academic quality, its compact and controlled environment, its motivational effect, and its embodiment of learning principles. Realizing the potential simulation offers to the area of career decision-making, it becomes important to determine if there are presently any games available which assess and/or teach the career decision-making process. An extensive review of the game and simulation literature reveals a limited number of such tools.

Some Attempts to Simulate Career Decision Making

Of those career decision-making simulations presently in use, Life Career (Boocock, 1967) is perhaps the most well-known and widely used. This game simulates the labor, school, and marriage markets as they existed in the 1960's. Its purpose is to give students familiarity with the types of decisions they will make throughout high school and in the several years following and the consequences they can expect from various decisions. Players work in teams to plan the life of a fictitious person whose case history they are given for reference. Decisions include how to allocate time in a weekly schedule for school, study, work, family responsibilities and leisure; when to get married, what kind of a job or college to apply to; and when to have children. The goal of each team is to make decisions for their personality which will result in the highest life satisfaction score. Scores have an element of chance and are computed on the basis of tables and spinners derived from U.S. Census and other national survey data. These figures indicate the probability of certain consequences occurring in the players' lives given their aptitudes, interest, and past and present performance.

Since it was the first simulation developed in the area of career decision making, there has been a moderate amount of research done on the Life Career Game. Research has been focused primarily in the areas of the effect of the game upon players' career awareness, sense of control over their environment and critical thinking. Unfortunately, results in all three areas are inconclusive with some researchers reporting that the game has a significant effect and an almost equal number reporting it has no effect.

The first person to study whether or not the Life Career Game teaches career-related factual information was the game's developer, Sarane Boocock (Boocock, 1966). In this study, high school pupils who were delegates in a 4-H convention spent 3 hours playing one of two games, Life Career or another game not related to career decision-making. Those who played Life Career performed better on a test of career-related information.

However, in a follow-up study conducted by Boocock, Schild, and Stoll in 1968, the previous results were not supported. In this research project, high school students who played Life Career for 5 class periods served as the experimental group. Their control was a group of students who read and discussed materials covering the same content as the game during the same class periods. Results showed that the control group, not the simulation group, outperformed on tests to measure learning from the game.

In an attempt to resolve these conflicting conclusions, several researchers have pursued similar studies. Conte (1968) developed the Life Career Inventory to measure the cognitive effects of playing the Life Career Game. Using this inventory as his dependent measure, he was able to show a significant increase in knowledge of career planning for sixth graders who played the game. However, Curry & Brooks (1971), using the same dependent measure with junior high school pupils, concluded from their results that the Life Career Game is no more effective than traditional methods in assisting pupils to learn subject matter. Similar findings made by R. H. Johnson (1971) indicated that awareness of life decisions and knowledge of career information did not significantly improve after playing the game. A final study by Mulherin (1971) demonstrated increased awareness of factors to consider in curriculum choice and occupational choice after exposure to the Life Career Game for 12 consecutive days. This finding was reported for ninth grade average ability students but was not true for low ability pupils in the same sample.

A second group of conflicting studies is concerned with the effect of the Life Career Game on the players' belief in their ability to control their environment. Boocock began this stream of research (Boocock, Schild, & Stoll, 1968), reporting no clear evidence that the game either increases or decreases one's sense of control. Stoll replicated these results as did Rhett (1974) more recently on a population of Black high school males. However, interesting results obtained by another researcher (Atkinson, 1970) might cause us to wonder if the question is not a moot one. Atkinson's study attempted to isolate interaction effects between the game, treatment, sex, and IQ of the subjects. His results indicate that for all players there was a significant improvement in sense of control over their environment. Sex and IQ did interact with the treatment, however. Males improved in their acceptance of responsibility for successes only, as measured by the Intellectual Achievement Responsibility Questionnaire.

Females improved in acceptance of failures and combined successes and failures but not successes. Low IQ subjects improved in their acceptance of successes and persons with average IQ in their acceptance of failures. Such findings, though intriguing, only add more confusion to the issue of the game's effect on one's sense of personal autonomy.

A third area of research interest has centered around the controversy over whether playing the Life Career Game affects one's ability to think "critically". One study (Curry & Brooks, 1971) provided no evidence to show that the simulation was effective in improving critical thinking ability as measured in the Watson-Glaser Critical Thinking Appraisal. From a second effort (Adams, 1971), results tentatively suggest that perhaps the game does make a difference on the thinking process of its players. Adams reported that subjects who played the Life Career simulation demonstrated more configural thinking than no-game controls. This experimental group tended to combine the factors of interest in the job, rewards of the job, and ability for the work in making judgments regarding the "goodness" of a particular occupational decision. The pattern of the relationship between these variables had more effect on their judgments than on controls who tended to evaluate decisions systematically and consistently on the basis of the same one or two variables, even though the situation varied.

Unlike previous studies, Adams used a simulation task itself as his dependent variable. Subjects were asked to read eight personal profiles similar to those case histories in the game itself. Each profile combined different levels of the interest, ability, and reward factors (e.g., high interest, low ability, high reward). At the conclusion of the profile, a career decision was offered as the one made by the fictitious person being described. The subject was then asked to rate this decision on a 9-point scale from very poor (absolutely the worst) to superior (absolutely the best). No further definition was supplied about the "goodness" of the decision. Use of this type of simulated task as the dependent variable was a novel break from earlier applications.

There are studies which have tried to use the Life Career Game itself as a dependent measure of decision-making ability and have found it to be too unrefined to serve as such an assessment and evaluation tool (Weinhold, 1969; Groome, 1975; Malik, 1970). Researchers conclude that a more precise measuring device is needed.

Criticisms of the game include: its outdatedness for today's job market; its inadequate hypothetical profiles do not supply enough information about the persons to make reasonable decisions (Johnson, 1971); its dependence on the traditional values that dictate happiness results from acquiring a good education, getting a good job, deferring marriage and postponing having children; the inordinate amount of game time required to calculate scores; the misinterpretability of the rules (Stadskler, 1975), its length and complicated nature; its imprecise scoring system resulting in unequal scores in the four decision areas, and its allowing players to repeat scores from round to round by not making any new decisions (Malik, 1970). With these criticisms in mind, it might be advantageous to consider other available career decision-making simulations.

Making of Life Decisions, MOLD, is a simulation used with both junior high and high school age students. It is a six-step process which players complete in small groups. First, players complete a personal profile sheet describing abilities, interests and family background. Then they record on slips of paper two pieces of information: what job they would want if they could have any without considering its cost, time, training, and experience requirements and what job they actually expect to be holding in ten years. The next step in the process is to read each statement aloud to the group and have them guess whose job profile each is. Members of the group explain why they chose their ideal and real jobs. Following this "guess who" game, players decide on their own tentative career choice. The third step in the process includes an explanation from each group member for a given career choice and a questioning session from the other members of the group to help clarify the reasons. Next, students independently plan their next year on MOLD forms, indicating course, work, leisure and housework schedules. This planning is much the same as is completed by Life Career players for their fictitious person. The fifth step in the simulation task requires students to consult probability tables to determine the consequences for the planning decisions they made. These tables report grades earned or success at getting a job. The last segment of the process is concerned with evaluation. At this juncture, pupils are given the Educational and Occupational Information Exam (EOIE) and a Student Reaction Questionnaire.

Two research studies have been conducted using MOLD. The first, by its developers Richard H. Johnson and Robert D. Myrick (1972), indicated that eighth graders in the game treatment group learned significantly more educational information (e.g., high school graduation requirements and differences between junior colleges and four year institutions) than the no treatment control group (p=.05). They also learned more occupational information (e.g., training requirements for jobs and differing life styles) than did the controls (p=.10). In addition, pupils were positive about the assistance the MOLD process provided them in planning. A recent study (Bailey, 1974) on ninth graders involved a more complex experimental design including the use of Super's Career Development Inventory, the Brown-Holtzman test of study habits and attitudes, a taped interview, and a paper and pencil test as dependent measures. Results indicated that pupils who participated in the MOLD simulation demonstrated greater knowledge of graduation requirements and asked fewer questions in the interview situation. Vocational maturity scores were not significantly affected by the simulation treatment, although they moved in the positive direction. No effect was noted in study habits or attitudes. It is interesting to note that the author suggests a future research study to explore the quality of decisions made as a result of the MOLD simulation technique. Obviously, no such exploration was made in either of these two studies.

A simulation device similar to MOLD was developed and tested by Quatrano (1974). It involves three phases: scheduling, feedback, and reinforcement. During the scheduling phase students read a paragraph describing a fictitious same-aged pupil in terms of his likes, dislikes, family, and school. In different pupil profiles there is varying emphasis on personal preferences, parental concerns and school resources and constraints. Students were instructed to schedule a 3½ hour time block for the hypothetical pupil and these were scored based on how much time was spent in school activities. During the feedback phase, the student who scheduled the most school time and therefore received the highest score was asked to explain why he chose to allocate his time in this manner. The counselor emphasized good planning strategies. A reinforcement phase involved distributing rewards based on how well each pupil planned the hypothetical schedule. The results of an experiment testing the effectiveness of this simulation task on time-scheduling behavior showed that treatment students performed significantly higher (p=.05) than controls on a scheduling task of the same sort as used in the simulation. However, there was no difference in performance on a time management questionnaire, a test of locus of control, a self-report of time scheduling or a classroom observation of time usage. The author points to a need for a diagnostic test to identify which students require assistance in learning to plan their time and their activities and suggests a scheduling task like the one described might serve this purpose. Although extremely simple, it may function as part of a career decision-making skills assessment battery since long-term time management is an aspect of career choice. Braland (1970) offers a very similar simulation task to the one just described, but adds a future alternation card to the situation, requiring the student to reschedule if necessary. This factor, recognition of the need for rescheduling and willingness to be flexible and adaptable in rescheduling, might be well worth including in CDM skills assessment.

Hamilton (1969) used a simulation device to test how much high school juniors learned about career exploration from his experimental treatment. The treatment and its effects are not within the scope of this literature review. However, the simulation task itself is of interest. Students were presented with a short situation describing a job possibility that was recently discovered to be of interest. They were then asked what sources they would use to explore the job, what questions they would ask a counselor regarding the job, what information about themselves would be necessary to know in regard to the job, and what specific questions they had about the job. Following this set of questions, students were given detailed information about the job and asked to list other questions they had regarding the job as well as its positive and negative aspects for themselves. A final question asked them to evaluate how promising the job would be for them. This simulation taps skill in matching personal abilities, interests, and values to requirements and specifications of the job.

A novel use of simulation in the area of career decision making is manifest in the Success Game (Nagasawa, 1970). It consists of 3 major horizontal path sequences leading to goals which are arranged on a seven-point hierarchy, each level indicating a different occupational status. The top level is labeled "higher professions" and the bottom level is labeled "unskilled", with varying occupational levels in between. Players answer content questions appropriate to their educational level to move across the board to the occupational status levels on the right. Success in answering questions at one stage permits choice of subsequent tasks on the same or a higher path sequence. Failure, on the other hand, restricts choice of subsequent tasks to the same path sequence or to the next lower sequence.

A more recent career decision-making simulation is called Simulated Occupational Choice or SOC (Katz, 1976). This technique presents the player with three fictional, futuristic occupations. Players are instructed to ask specific questions regarding the three jobs to determine which would be most appealing to them. As each question is asked by the players and they receive more information about each possible occupation, they move markers up or down on an "attractiveness" scale. During the second phase of the simulation, the players are given a list of values from which to choose their three most important ones. They then are asked to formulate questions about the three fictional jobs to secure information in their valued areas. Players again rate the jobs based on this new information as well as on the accumulated information. A final choice among the three occupations is made. During the third phase of the task, players are given all remaining unsolicited information about the three occupations. They are asked to sort this as well as the previously obtained information into three piles, depending upon how important it is to them to have each value satisfied in their job. Finally, they are asked to perform a more detailed ranking. Those values most important to them are given a rating of eight and those of no importance are given a rating of 0, with varying degrees of importance rated 2-7.

Using SOC, the final score for goodness of a decision is based upon how many of the persons' top-ranked values were those about which they solicited information. In this way, SOC places total weight for judging the quality of decisions on values congruency. It has in some respects ignored the processes of career decision making discussed earlier: planning, scheduling, and time management (Quatrano); recognition of the need to replan, reschedule, and willingness to do so (Braland); matching of abilities with job requirements (Hamilton) and recognition of the relationship between educational level and job opportunities (Nagasawa). In addition, any realistic simulation of career decision-making should probably address the role of risk and uncertainty more directly than do the designers of SOC. The players are never required to subjectively assess the liklihood of their attaining any of the three occupations. Yet this is an important step which often precedes making decisions about careers.

In summary, it might be helpful to review some of the strengths that simulation has over assessment and instructional techniques: its learn-by-doing approach, its lifelike quality, its time-compressed element, its excitement and novelty, and its application of reinforcement and guided practice principles. A well-designed simulation of career decision making tries to take advantage of as many of these strengths as possible.

However, any simulation must distort reality in some respects. If it didn't it wouldn't be a simulation. Designers of a simulation must shape their game to accomplish certain major purposes at the sacrifice of others. Trade-offs are inevitable. For purposes of the present research study we wish to develop a simulation which will enable us to accomplish two major purposes: (1) derive a measure of the quality of each subject's career decision, and (2) track the process by which the subject arrived at that decision.

Chapter 2B

Development of the Career Decision Simulation (CDS)

We wanted a simulation device that would meet the following specifications:

(1) Provide an objective, standardized procedure for assigning a numerical value to the outcome of a subject's job decision; i.e., a "degree of goodness" score.

(2) Represent real-life CDM as closely as possible; i.e., have high face validity.

(3) Deal with a variety of personal work values dimensions

(4) Provide a recording system to track a person's decision-making behavior. We wanted to record and preserve the cumulative, sequential information on how the simulation was used.

(5) Be non-competitive and compatible with independent use; i.e., require only one subject's participation at a time.

(6) Be reasonable to complete within a 2-hour time limit.

(7) Be self-contained.

(8) Be stimulating, easily understood, and unbiased with regard to age, race, or sex.

Although both the Life Career Game and SOC contained features attractive for our research interests, neither simulation adequately met our specifications. Thus, we reluctantly faced the necessity of having to construct our own device.

The Career Decision Simulation (CDS) is the criterion instrument we have developed to measure CDM behavior. The CDS not only provides a standardized procedure for assessing the quality of a "career decision" through the use of an objective, numerical scoring system, but it also provides data from which we can make inferences about a person's decision-making style. Thus, we can gather information about both decision-making processes and outcomes, and see how these data correlate for individuals with varying decision-making predispositions exposed to different instructional treatments.

The basic rationale is that good decision makers are able to make decisions which yield consequences consistent with their own values. Subjects first record how important they view each of nine work values (Katz, 1973) by rating three of them high, three of them medium, and three of them low. Then they are asked to search through some specially constructed "occupational information" until they can select one of 12 fictitious occupations. The more nearly the chosen occupation satisfies their own values, the higher their score on our measure of decision quality.

Some 339 separate bits of information are available on index cards or audio tapes. The information was so designed that for each of the 1,680 possible value configurations generated by the forced value rating task, the "goodness" rank order of the 12 occupations is known. Subjects could thus be informed of the "goodness" of their choice immediately upon completing the simulation.

Subjects could adopt any particular type of decision style and still be able to make a good choice. They could choose their preferred occupation immediately without surveying any of the occupational information, or they could spend up to two hours searching and thinking.

In the descriptions that follow, the reader will find it useful to refer to Appendix B, The Career Decision Simulation (CDS). To use the simulation, players begin by reading a directions card labeled "Start Here" which acquaints them with their purpose and directs them to listen to further orientation and instructions on the Directions tape. The "Start Here" card is reproduced below.

START HERE

> You are about to make a major career decision--but only as part of a simulation exercise. You will find the process both educational and fun.
>
> You are to pretend that you want to decide on your life's work, or at least the job you want to try next. Try to approach this task in the way you would really decide on a career.
>
> This simulation exercise is self-explanatory. Your next step is to find the cassette tape labeled "Directions" above Tape 1 in the Cassette Tape Holder. Insert this tape in the tape player, push the "Play" button and follow the directions you will hear. (Now place this card in the Card Return Box.)

The "Directions" tape instructs subjects to use the Personal Work Values Rating Form to rate the following set of nine values so that three are high, three are medium, and three are low: Color-coded pegs labeled H, M, and L are available for this task and all subsequent ratings of value levels for occupations that are investigated.

Early entry
Helping others
Income
Independence
Leadership
Liesure
Prestige
Security
Variety

The Directions tape goes on to point out that a set of Value Definition cards is available to players who wish to clarify the meaning of any of the CDS's nine personal work values. Both sides of one Value Definition card are reproduced below.

What does the value of "Independence" mean?

328 234000

Independence is the extent to which you make your own decisions and work without supervision or direction from others.

If your occupation offers high independence, you would be your own boss.

Low independence would mean working under close supervision carrying out the decisions of others.

A set of Scoring Rules Cards is also available for players who wish to obtain the maximum amount of explicit information on scoring procedures. These cards really represent an additional source of relevant information which may be utilized to facilitate the decision-making process. Both sides of one Scoring Rule Card are reproduced below.

How many points do I earn when my Career Decision is compared with my values?

338 225000

Each of your 9 ratings on your Personal Work Values Rating Form will be compared with the real level (high, medium or low) of the job you have chosen.

Number of Points Each of Your Values will Earn

If your personal work value is		When the real level of your Career Decision on that value is		
		High (H)	Medium (M)	Low (L)
High	(H)	60	20	0
Medium	(M)	30	40	5
Low	(L)	10	15	20

The tape also acquaints the player with the procedures for using the following nine informational resources:

Book or Magazine: information from a wide variety of books and magazines.

Career Handbook: information from occupational dictionaries and career guidebooks.

* Career Speaker: information from speeches given at a local "career night" presentation or classroom.

A Friend: information from conversations with your friends.

Horoscope: information from horoscopes written for your astrological sign today.

Newspaper Ad: information from classified advertisements or want-ads found in a daily newspaper.

Personal Experience: information gained from your own possible personal experiences with jobs and careers.

* Radio or TV: information from a variety of radio or television programs and commercials

* Worker Interviews: information from talking with persons actually working on various jobs

---

* These information sources are recorded on cassette tapes.

The player is repeatedly informed that the object of the CDS is to obtain the best possible match between one's personal work value ratings and those of the job "chosen" to end the game. The 12 possible fictitious occupations were given the following names:

breandist
deptician
geebist
hister
jepist
kralician
onician
plinder
quentic
splacker
tasindic
zampic

Players' actions are recorded by requiring them to place each card they read into the Card Return box. Thus, for each CDS participant, data on the amount, particular kind(s) and sequence of information used in making a simulated career decision is available for subsequent analysis. Players can record their judgments about the level of a value for any given occupation by using a form known as a Job Strip. Like the Personal Work Values Rating Form, Job Strips (12 in all, one for each fictitious occupation and arranged for easy viewing in a Job Strip holder) are wooden forms with nine indentations corresponding to the nine personal work values. The color-coded H, M, and L pegs can also be inserted in the Job Strips to record value level judgments, and for "record-keeping" purposes. As a further convenience, all Job Strips are interlocking with the Personal Work Values Rating Form and with each other to facilitate quick and accurate comparisons.

Players terminate performance on the CDS whenever they wish. They obtain a better score the more nearly their originally specified personal work value ratings match the value levels of the job they have chosen. Actual performance is ended by writing the name of the selected occupation on the Job Decision card, and, as with all other cards, placing this card in the Card Return box. The performance is then scored and the subject paid according to the procedures outlined in the Administrator's Manual (Appendix B).

Information on three of the nine values is presented for each of the 12 occupations across nine different sources of information. Thus, a player has 324 separate pieces of occupational information from which to choose. For six of these sources (Book or Magazine, Career Handbook, A Friend, Horoscope, Newspaper Ad, and Personal Experience) the information is written on 3 x 5 index cards. The cards are contained in separate boxes for each source, indexed alphabetically by job, and within each job alphabetically by the three different values represented there. Both sides of two representative cards are reproduced below.

A Friend Breandist Independence

109 101344

"A friend tells you that one of the characteristics of breandists is that they are able to run their own affairs, make their own decisions, and 'sink or swim' based upon the decisions they make. He says they are not closely supervised."

Personal Experience Deptician Leisure

220 102367

"While working at the Big Blue Sky resort area last summer you had a chance to meet and talk with many of the vacationing guests. You were struck by the large number of depticians spending their vacations there. You also learned that many of these depticians visited the resort 2 or 3 times a year, and usually for several weeks at a time."

There are also 3 x 5 index cards arranged in the same fashion for the three "audio" sources -- Career Speaker, Radio or TV, and Worker Interview. However, these cards refer the player to the appropriate cassette tape containing information for that particular source, occupation, and value. The entire set of cassette tapes is housed in a conveniently labeled, revolving carousel storage unit, and contains 108 job information tapes (36 per information source) and the Directions tape. The Directions tape, used by each player before performance begins, explains the purpose and mechanics of the simulation, and provides all participants with a uniform orientation.

A computer-assisted calculation of the CDS scoring key resulted in a computer printout on 95 8½" x 11" pages. This key provides a handy way for the administrator to quickly determine a subject's score on the CDS. It is systematically arranged to display the 1,680 different ways a subject can assign three high, three medium, and three low values from a set of nine different work values. For each of these 1,680 possible value level configurations, both a raw score based on the CDS's scoring system (used to compute subjects' payments) and a standard score (ranging from 30 to 70) are provided for all 12 of the fictitious occupations from which subjects must choose. Thus, a subject's standard score can be looked up in the printout simply by knowing the ratings on the Personal Work Values Rating Form and the name of the occupation written on the Job Decision card.

Finally, the actual designing and production of the CDS posed several considerable challenges. Since 8 separate CDS units were needed to complete data collection in the field, professional assistance was sought. The Medical Graphics Department of the Stanford University Medical School was consulted for assistance in designing and producing most of the major components of the CDS. It was decided that a hardwood (ash) would be the best medium for making the Personal Work Values Rating Form, 12 Job Strips, Job Strip Holder, 111 High Pegs, 111 Low Pegs, 111 Medium Pegs, and 12 Card Boxes (9 information sources, Value Definitions box, Scoring Rules box, and Card Return box). Graphics in the form of lettering, thematic pictures, silkscreening, paint, and varnish were applied to the various pieces of each CDS unit.

Making multiple copies of the CDS involved other considerations as well. Of primary concern was the need to have a sufficient supply of the 355 informational and "administrative" cards needed for each subject's performance on this criterion instrument. After considering the problems of recording, sorting, and returning the cards to their appropriate locations after each administration, a decision was made to have a complete "deck" of 355 cards printed, indexed, and collated for use with each subject. Thus, 245 card decks were prepared for the CDS administrations. Since 3 of the simulation's information sources (Career Speaker, Radio or TV, and Worker Interview) contain cards that direct a subject to listen to a numbered cassette tape, it was also necessary to reproduce and label 3 additional copies of each of our 109 cassettes. This gives us a total of 4 complete sets of cassettes and cassette holders which is sufficient, since two subjects can be administered the CDS using a common set of tapes.

Subjects were paid from $3 to $6 each depending on their performance on the CDS. Each subject was guaranteed a minimum of $3 plus one cent for each point assigned for matching values (see reproduced Scoring Rule card) minus one cent for every occupational information card used. The reimbursement system was designed to reward choosing an occupation which most nearly satisfied one's more important values while representing the reality that searching for information does cost the decision maker something.

Chapter 3B

Methodology

The central issue to which this project was addressed concerned the effect of training in rational decision making on the quality of resulting decisions. That is, can people be taught to make rational decisions, and do these decisions result in better outcomes for the decision maker? The experiment which will be described was designed in part to answer the above questions.

The Decision-Making Questionnaire (DMQ) described in Part A of this report also allowed us to address some other questions in this experiment. The DMQ assesses the extent to which people make decisions in accordance with one of five possible styles (rational, impulsive, fatalistic, intuitive, and dependent). One question which interested us was whether training in rational decision making was differentially effective depending on the prior decision-making styles of the subjects. For example, would people who tended to make decisions impulsively benefit more from training in rational decision making than those who made decisions dependently? The experiment and analysis methods to be discussed address all the above issues.

Sample

The subjects for this study were 255 community college students, described in Part A, who were enrolled in vocational planning classes in three community colleges in California. Two of the schools, Foothill and De Anza Colleges, are in northern California. The third, Moorpark College, is in southern California. Our experiment took several weeks to complete and there was considerable attrition from the time our pre-treatment measures were taken until the post-treatment assessment was done. The final subject sample consisted of 148 students, proportional in make-up to the original sample, who completed all pre-treatment measures, participated in one of the two treatments and completed the post-treatment and follow-up measures.

Treatment

The major purpose of the experiment was to assess the effects of training in rational decision making on the quality of resulting decisions. In order to accomplish this we developed a 90-minute curriculum to teach rational decision making and administered this curriculum to a random half of our subjects. The other half of our sample received a control curriculum designed to teach job interviewing skills. It was comparable to the decision-making curriculum in every way except content. Both curricula included (1) didactic presentations of the concepts being taught, (2) demonstrations of how the skills could be applied to real life situations, (3) guided practice for students, and (4) opportunities for students to perform skills independently.

Experimental group curriculum

The objective of the experimental curriculum (Appendix C) was to teach a rational decision-making approach. It was based on the "DECIDES" decision-making model (Krumboltz and Hamel, 1977) which consisted of these seven steps: (1) Defining the problem, (2) Establishing an action plan, (3) Clarifying values, (4) Identifying alternatives, (5) Discovering probable outcomes, (6) Eliminating alternatives systematically, and (7) Starting action. (The first letter of each step spells out the acronym "DECIDES".) The curriculum was designed to be taught in 90 minutes and contained three different sections.

Section I included a brief rationale for learning how to make wise decisions. The DECIDES model was then introduced, together with a demonstration of the model's application to a concrete decision (choosing a particular book to read from among five alternative books). Students were taught a method for organizing the information by using a grid which listed values on one axis and alternative actions on the other. The grid was used to determine how well different values were satisfied by each of the alternative choices.

Section II consisted of a guided practice exercise in which the class was assisted in applying the DECIDES model to another decision situation (choosing a specific bank in which to open a checking account). Class members worked with the instructor to establish a plan of activities to carry out each step of the model. After the action plan was formed, the instructor and the class carried out each step of the plan. The students were given sample bank brochures, anecdotal information about each bank, and a grid system listing the alternative banks and hypothetical values. The students then answered value questions based on the available information and chose the best alternative by studying the grid and eliminating alternatives that provided the least desired benefits.

Section III was a self-directed mastery experience in which class members individually applied the DECIDES model to a decision situation (selecting a specific work experience program). Each student was provided with the following materials: (1) an explanation of the decision which needed to be made, (2) a packet containing descriptions of twenty fictitious occupational experiences from which to choose, (3) an action plan form with the seven DECIDES steps, and (4) a blank values-by-alternatives grid.

Control group curriculum

The objective of the control curriculum (Appendix D) was to teach effective interviewing techniques for prospective job-seekers. The format and method were parallel to the experimental (DECIDES) curriculum. Seven interviewing rules formed the core of the interviewing skills curriculum. The rules were (1) know the job's requirements and expectations and how your qualifications fulfill them, (2) present yourself appropriately, (3) be prepared to answer commonly asked questions, (4) be prepared to ask pertinent questions, (5) be honest and sincere but prudent, (6) know how to end the interview on a positive note, and (7) know how to follow up with an employer after the interview. The control curriculum was also designed to be taught in 90 minutes and consisted of three parts.

Section I presented a rationale for why it is important to learn job interviewing skills and provided an introduction to the seven rules listed above. The instructor then demonstrated how the seven rules could be used as a guide in preparing for a job interview.

In Section II class members participated in a guided practice exercise. The class was assisted in using the seven interviewing rules to prepare for a job interview as a bank teller's assistant. Each rule was reviewed and the class and instructor developed a joint plan to prepare for the job interview.

Section III consisted of a final practice exercise. Each student was given the opportunity to role-play or observe being interviewed for a job. The students used the seven rules to guide their behavior during the simulated job interview. Students who observed the role-playing situation were required to fill out an evaluation form which provided feedback to the interviewee about how well she or he performed with regard to each rule. After each role-playing situation the instructor led the class in pointing out appropriate behaviors and suggesting alternative behaviors for less than adequate responses.

Criterion Measures

One pre-treatment assessment and two post-treatment assessments were conducted during the course of the experiment. Prior to participation in either the experimental or control condition, all subjects were administered the Decision-Making Questionnaire (DMQ) as described in Part A. The DMQ presented five decision-making situations which almost all persons encounter at some time and asked the subjects to recall behaviors, thoughts, and actions undertaken when each decision situation was encountered in real life. The decision situations were (1) deciding on a job, (2) deciding on a movie to see, (3) deciding on a college to attend, (4) deciding on an expensive purchase, and (5) choosing an elective class. Within each decision situation, there were a series of questions to determine the extent to which a subject used any of five decision-making styles in making the decision. The five styles were (1) rational, (2) fatalistic, (3) dependent, (4) intuitive, and (5) impulsive. Finally, the DMQ also included scales by which the subjects could rate the importance of each decision situation, the confidence with which they made each decision, and how satisfied they were with the outcome of their decisions, both when they were made and at the time of filling out the questionnaire. Administration of the DMQ to subjects before they received any experimental treatment allowed subsequent examination of the interaction of prior decision-making style with treatment.

After the subjects had participated in either the experimental or control treatment, two post-treatment assessment instruments were utilized. The first was College Board's Career Decision-Making Skills Assessment Exercise (CDMSAE), part of the Career Skills Assessment Program. The CDMSAE is a 60-item multiple choice paper and pencil test designed to assess the extent to which the individual possesses knowledge of career decision-making skills.

The final and primary assessment instrument utilized was the Career Decision Simulation (CDS), which was described in Chapter 2B of this report. The CDS is designed to measure the "goodness" of career decisions. The basic rationale is that good decision-makers are able to make decisions which yield consequences consistent with their own values. Thus the CDS first assesses each subject's preference for values. Then the subject samples a wide variety of information and chooses a fictitious job to match as closely as possible to those values. The subject then receives a score for the choice. The better the match between the subject's values and the values inherent in the fictitious job, the higher the score.

Procedure

Details of the administrative procedure are described in Appendix E. The experiment was conducted in four major stages, covering a three-month period. In the first stage the Decision-Making Questionnaire (DMQ) was administered during a regularly scheduled class period to assess initial decision-making style.

During the second stage, teaching of the curricula, subjects in each class were randomly assigned to either an experimental (training in rational decision making) or a control (training in interviewing skills) group. It was then determined by randomization which of the groups would move to a nearby classroom and which of the two experimenters would teach the experimental or control curriculum. To insure standardization and adequacy of instruction, all classes were tape recorded.

In the third stage of the experiment, an experimenter administered College Board's Career Decision-Making Skills Assessment Exercise (CDMSAE), a cognitive measure which assessed knowledge of decision-making skills.

In the fourth stage the Career Decision Simulation (CDS) was administered. The CDS was our primary criterion measure of the "goodness" of decision making. Students who had completed the three prior stages were contacted individually and scheduled to take the CDS. After completing the CDS, subjects were paid from $3 to $6 for participating. The amount of payment was determined by the subject's score on the CDS. The higher the score, the more money received. For details of the CDS administrative procedures, see Appendix B.

CHAPTER 4B

Results and Discussion

The Effect of Training on Knowledge of Decision-Making Procedures

The first post-treatment measure which was administered was the College Board's Career Decision-Making Skills Assessment Exercise (CDMSAE). The CDMSAE is a 60-item multiple choice test which assesses the subject's knowledge of the rational decision-making process in general and the DECIDES model of rational decision-making in particular. A subject receives one point for each correct answer, making the maximum possible total score on the instrument equal to 60. The total score is comprised of seven subscores, each subscore representing one of the seven steps of the DECIDES model.

In order to determine whether training in rational decision-making improved experimental subjects' performance on the CDMSAE total score and subscores, as compared to the control subjects, t-tests were performed between the experimental and control groups on the eight scores. The means and standard deviations for these scores, with their t-values, are presented in Table 4B1. Training in rational decision-making did not result in significantly higher scores for the experimental group, although there was a slight trend for the experimental group to have higher scores, as Table 4B1 indicates. None of the mean differences produced t-values significant beyond the .25 level.

Since overall significant differences were not found between the experimental and control groups for performance on the CDMSAE, a 2 x 2 x 3 analysis of variance was performed on the CDMSAE total score, using the factors of treatment, sex, and age. This analysis was done in order to

Table 4B1

Treatment Group Means and Standard Deviations for Career Decision-Making Skills Assessment Exercise Scores

TREATMENT GROUP	TOTAL SCORE		SUBSCORES													
			DEFINE THE PROBLEM		ESTABLISH AN ACTION PLAN		CLARIFY VALUES		IDENTIFY ALTERNATIVES		DISCOVER PROBABLE OUTCOMES		ELIMINATE ALTERNATIVES SYSTEMATICALLY		START ACTION	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Experimental	47.6	7.9	3.0	.92	9.7	1.6	7.3	1.5	7.6	1.3	11.2	2.6	5.4	1.5	3.4	.78
Control	46.9	8.8	3.0	1.0	9.7	1.9	7.2	1.7	7.4	1.5	11.2	2.6	5.1	1.4	3.3	.89
t-Value (d.f.=215)	.62		0.0		0.0		.5		1.15		.212		1.212		.594	

determine if the training in rational decision making had differential effects as a function of the age or sex of the subjects. The analysis of variance is shown in Table 4B2. As the table indicates, there was both a main effect of sex and a two-way interaction between sex and age. Figure 4B1 diagrams the main effect and interaction which are also tabulated numerically in Table 4B3. Females scored higher on the CDMSAE than males, creating a main effect of sex. However, the difference between the scores of males and females was minimal in the case of subjects under 21 years of age, and amplified for subjects over 21, creating an interaction between sex and age. There were no significant interactions between the factors of treatment, sex and age.

Overall, the results of the above analysis indicate that the 90-minute training in rational decision making had no significant effect on subjects' performance on the CDMSAE, although those who received training tended to perform as well or slightly better than the control group. We view it as unlikely that people cannot be taught rational decision making. Rather, it is more likely that the manner in which rational decision-making was taught and the attributes measured by the CDMSAE interacted to produce little difference in outcome scores between the experimental and control groups in this study.

As previously noted, training in rational decision making was conducted on a group basis for 90 minutes. It is very possible that 90 minutes was insufficient time to have allotted to the treatment, especially when one considers that we were attempting to alter decision-making

Table 4B2

Analysis of Variance of Total Score on CDMSAE as a Function of Treatment, Sex, and Age

Source of Variation	DF	Mean Square	F	p
Main Effects	3	216.41	3.4	.01
Treatment	1	8.72	.14	.71
Sex	1	720.52	11.31	.001
Age	2	63.58	1.0	.37
2-Way Interactions	5	175.65	2.76	.02
Treatment x Sex	1	15.22	.24	.63
Treatment x Age	2	94.98	1.5	.23
Sex x Age	2	292.58	4.59	.01
3-Way Interactions	2	48.85	.72	.49
Treatment x Sex x Age	2	48.85	.72	.49
Explained	11	166.87	2.619	.004
Residual	206	63.71		
Total	217	68.94		

Figure 4B1. Mean Scores on Career Decision-Making Skills Assessment Exercise as a Function of Sex and Age of Subjects.

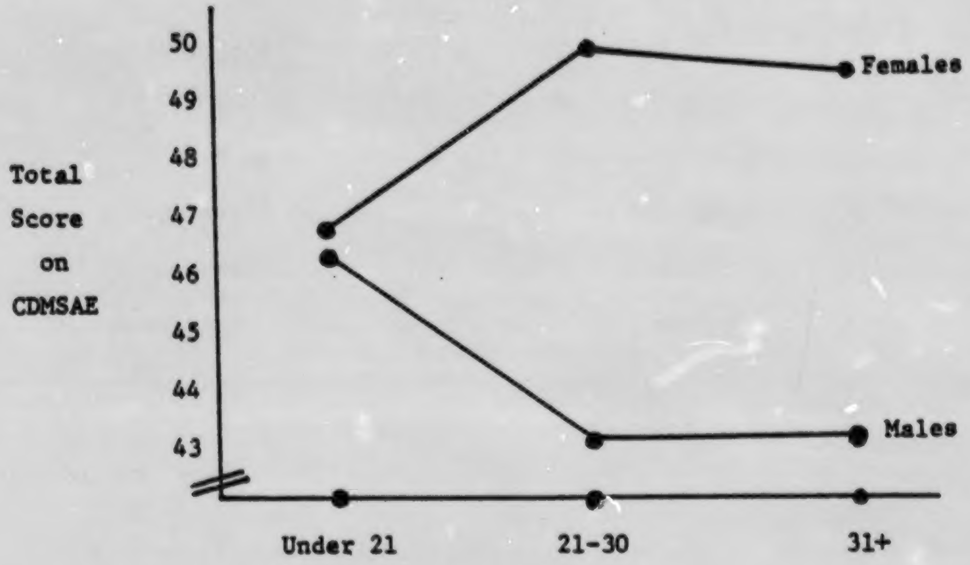


Table 4B3

Cell Means and Standard Deviations on the CDMSAE by Sex and Age

Sex	Males			Females		
Age	Under 21	21-30	31+	Under 21	21-30	31+
Mean	46.3	43.2	43.4	46.7	49.8	49.1
SD	7.8	8.6	7.6	8.0	9.4	6.3

styles that subjects may have used all their lives. It would be most interesting to replicate this study using a more extensive treatment to find out if that were indeed the case. Another, and perhaps more salient, factor which may have influenced the CDMSAE outcome scores is that the CDMSAE is a cognitive measure which is highly correlated with reading ability and scholastic aptitude. It did not measure the content of what was taught even though the subscore labels corresponded with the DECIDES model which was taught. Out treatment was designed to develop performance competency for rational decision making, not knowledge about the process.

The main effect found for sex on the CDMSAE and the sex x age interaction is more likely attributable to the characteristics of our community college sample than to inherent differences between male and female abilities in decision making. It can be noted from Figure 4B1 that there was a wide dispersion between male and female performance, with higher scores for females over 21 years of age. However, there was very little difference in male-female scores for subjects under 21 years of age.

Possibly the interaction can be explained as the result of current social forces on the population of a community college. Many young men and women of comparable academic ability now attend community college, thus accounting for the neglible difference in the under 21 age category. However, in years past many talented women elected to forego educational opportunities for marriage and children. Now, at an older age, they are returning to begin their college education at a nearby community college. Older males attending a community college during daytime hours, however, are likely to be there for different reasons. Perhaps they are unemployed, laid off or dismissed from prior employment and seeking some training or direction in an area that might produce more success for them. Academically gifted males over age 21 are more likely employed or in graduate school, not in a community college. This explanation is pure speculation and is not confirmed by the data in this study although it is consistent with that data.

The Effect of Training on the Quality of Simulated Career Decisions

The second post-treatment outcome measure which was administered to subjects was the Career Decision Simulation (CDS). The CDS standard score was the measure of the "goodness" of the job choice made on the CDS. According to the scoring system, the better the match between a subject's values and his or her simulated job choice, the higher the standard score. The scores ranged from 30 to 70.

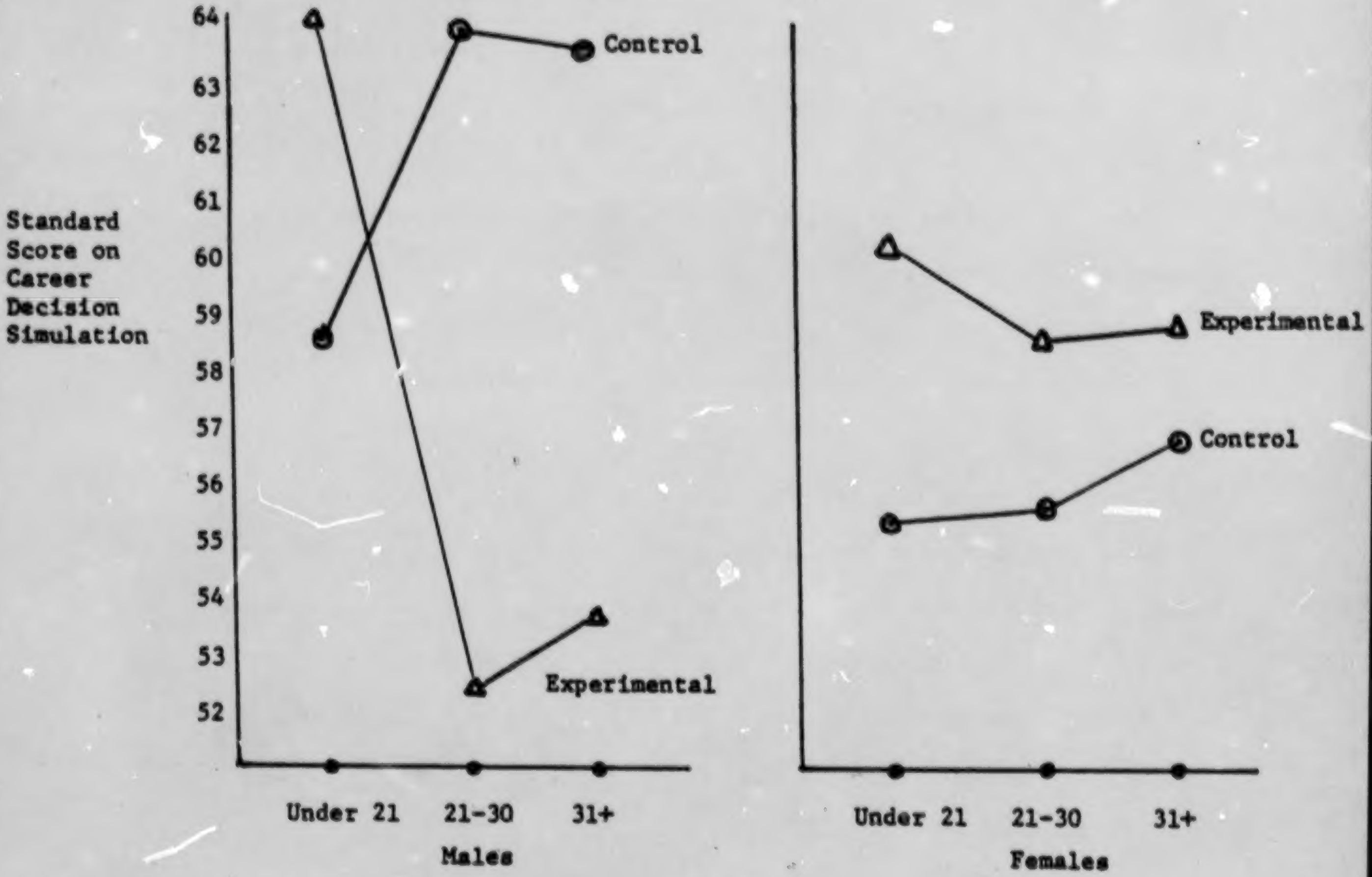
As with the CDMSAE, the t-test between the experimental and control groups failed to differentiate the two groups. Therefore we again conducted a 2 x 2 x 3 analysis of variance, using the factors of treatment, sex and age, in order to determine if the treatment had differential effects as a function of the subjects' sex and age. Table 4B4 presents the analysis of variance. The three-way interaction approached, but did not quite reach, statistical significance at the .05 level. Since it did reach the .06 level in this exploratory study, it may be instructive to examine the nature of that interaction more closely. The three-way interaction is diagrammed in the Figure 4B2 with means and standard deviations

Table 4B4

Analysis of Variance of Standard Score on CDS
as a Function of Treatment, Sex, and Age

Source of Variation	DF	Mean Square	F	p
Main Effects	4	113.77	.75	.56
Treatment	1	173.99	1.143	.29
Sex	1	182.55	1.2	.28
Age	2	37.96	.26	.77
2-Way Interactions	5	129.21	.85	.52
Treatment x Sex	1	197.66	1.3	.26
Treatment x Age	2	205.06	1.35	.26
Sex x Age	2	18.55	.12	.89
3-Way Interactions	1	537.48	3.53	.06
Treatment x Sex x Age	1	537.48	3.53	.06
Explained	10	163.86	1.077	.385
Residual	136	152.22		
Total	146	543.571		

Figure 4B2. Mean Scores on CDS Standard Score as a Function of Sex, Age and Treatment



in Table 4B5.

For females in all three age groups the experimental training in rational decision making produced higher standard scores ("better" decisions) than the control treatment. The same was true for males under age 21. However, for males over 21 the control treatment produced superior results.

That is, training in rational decision-making tended to improve the average decision quality, except for older males. This result is strikingly similar to the sex x age interaction found for the total score on the CDMSAE, except for the additional influence of treatment in the case of the CDS.

The above results suggest two inferences. First, it appears that the males over 21 in our sample were unable to benefit from our particular version of training in rational decision making. Second, it appears that a behavioral outcome measure (the CDS) is more sensitive to treatment effects than a cognitive one (the CDMSAE), probably due to the focus of our curriculum for training performance in, not knowledge about, rational decision-making.

An overview of the results from both of the outcome measuress indicates that training in rational decision-making was not as effective as might be desired. Some possible reasons for the lack of effectiveness in this study, sampling bias and a relatively short treatment, have already been discussed. An additional issue which should be addressed is the problem of a possible bias in the CDS. The simulation was

Table 4B5

Cell Means and Standard Deviations for CDS Standard Score

Group	Males						Females					
	Under 21		21-30		31+		Under 21		21-30		31+	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Experimental	63.7	5.2	52.3	13.4	53.2	9.8	60.0	8.4	58.3	11.2	58.5	9.4
Control	58.6	11.2	63.7	5.9	63.6	6.4	55.2	12.1	55.4	9.6	56.8	11.6

designed to approximate a real-life career decision situation. However, one way in which the simulation does not approximate reality is in the complexity and ambiguity of the occupational information it contains. Real-life information is often complex and ambiguous, whereas the job information in the simulation is relatively clear and straightforward. Thus, once subjects understand that a high score on the simulation is produced by matching their own values with those of their job choice, they have only to access the information in a systematic manner and make a choice. Thus, the CDS is almost a self-teacher of the rational model.

Two characteristics of the data indicate that the CDS may have been teaching rational decision-making behavior to the subjects. First, as the cell means in Table 4B5 indicate, there was relatively little spread between the performance of treatment groups on the simulation. The range of possible scores was 30-70. Random guessing by subjects would result in an average score of 50, but the lowest group mean was 52.3, with the average score for all groups being 58.3. Thus the distribution was heavily skewed toward high scores, indicating that subjects were learning to do well on the simulation, regardless of treatment group.

Second, there was a significant difference between the treatment groups on the length of time taken to complete the simulation ($\underline{t} = 2.00$, $\underline{p}. < .05$ with 147 d.f.). Experimental subjects took longer than control subjects. One of the fundamental points addressed in the treatment curriculum was that good decisions are worth the investment of time and effort. One could argue that, had the simulated occupational information been more ambiguous and thus more difficult, the experimental subjects would have profited more from spending more time.

Promising beginnings have been made in devising a rational decision-making curriculum and developing an outcome measure to test its effects, but both curriculum and outcome measure could be improved. Revisions in both might enable a more conclusive test of the effects of training in rational decision making on the quality of resulting decisions.

Prior Decision Making Style and Treatment Outcomes

We have examined some effects of a training program in rational decision making on the quality of decision outcomes and knowledge of the decision process. But subjects enter training with a variety of past experiences in decision making. Some already are proficient at rational systematic procedures. Others are predisposed to favor a more intuitive approach. Still others may be fatalistic, or dependent, or impulsive in their predisposition to decision making. To what extent are these predispositions related to the quality of decisions made? How do rational training interventions interact with various decision making predispositions? Will a training intervention have the same effect for each predisposition type? A more thorough understanding of these issues will aid the design and implementation of future decision skills training programs.

We predicted that decision making style would influence decision outcomes in the following ways:

1. Highly rational subjects will make better decisions on the CDS standard score (decision quality measure) than their less rational

counterparts.

2. Low rational subjects' decision quality scores will benefit more from rational training than will the scores of highly rational subjects.

3. Highly rational subjects will demonstrate more knowledge about decision making skills on the Career Decision Making Skills Assessment Exercise (CDMSAE) than the less rational subjects.

4. Low rational subjects will learn more about decision-making skills (CDMSAE) as a result of the rational training program than will their more rational counterparts.

5. Highly rational subjects will report more confidence about their CDS decision than will less rational subjects.

In addition to these specific predictions we considered two open-ended questions. We wanted to know whether any of the five decision making styles was associated with the quality of decision outcomes; and, we were interested in whether the rational training program was differentially effective for subjects of each decision making predisposition.

Prior to our analyses we computed "style scores" for each subject based upon his/her responses on the Decision Making Questionnaire (DMQ). Subjects were assigned scores on each of the five decision making style dimensions (rationality, intuitiveness, impulsiveness, fatalism, and dependency) such that a high score in one of the styles reflected a pattern of behaviors consistent with this style whereas a low score on the style reflected behaviors inconsistent with the style. Because factor analysis of the DMQ items had shown some inconsistency of response patterns across decision situations, we computed subjects' scores separately for each of the five decision situations. Consequently, it was possible for a subject to have a score reflecting high consistency with a rational style in one situation and low consistency with a rational style in another situation. We dichotomized the decision making style variables by dividing subjects into high and low groups according to whether their scores fell above or below the median in each decision situation. Thus, all subjects who scored above the median on fatalistic behaviors in DMQ Situation #1 were characterized as "high" on fatalism for that situation. The separation of subjects into high and low style groups was carried out separately for each decision situation. A subject characterized as highly fatalistic in DMQ Situation #1 might be characterized as low fatalistic in DMQ Situation #2.

Because very little is presently known about the relationship between decision making style and decision outcome, we wanted to test our specific predictions and to identify any promising leads for future research. For this reason we computed a large number of analyses of variance using the decision styles, confidence and satisfaction measures, sex, and treatment as independent variables. Our dependent variables included measures of decision quality and knowledge from the Career Decision Simulation (CDS) and the Career Decision Making Skills Assessment Exercise (CDMSAE). Results presented here are selected for their pertinence to our initial hypotheses as well as for their suggestiveness for further investigation.

However, because a large number of analyses were computed and only the most interesting selected for presentation here, the findings of this section may well have capitalized on chance variance and should be considered only as suggestive hypotheses in future research.

Do Rational People Make Better Decisions?

One of our major hypotheses was that highly rational subjects would make better decisions than low rational subjects. Subjects who were high and low rational in their last job choice (as assessed by the Decision Making Questionnaire) were compared on the quality of their simulated decisions. High rationals made slightly better decisions on the CDS than low rationals as shown in Table 4B6, but the difference did not reach conventional levels of statistical significance as shown in Table 4B7.

We had also hypothesized that low rationals would benefit more from a rational training program than high rationals, but this hypothesis was not supported by the data. The means are reported in Table 4B8.

What Predispositions Are Associated With Successful Decision Making?

We failed to find the strong association between rational styles and decision making success which we had predicted. We might still expect to find an association between one of the nonrational styles and the quality of decision making. In fact, the dependent and intuitive decision-making styles tended to be associated with poor decision making. Subjects who reported using a highly dependent approach to choosing a movie did worse on the CDS than the less dependent subjects (see Table 4B9).

Table 4B6

Mean Standard Scores on Career Decision Simulation by Rationality Level

Style Level on Prior Job Choice (DMQ)	Mean	S.D.	N
High Rational	59.5	11.5	69
Low Rational	56.7	13.4	63

Table 4B7

Analysis of Variance of CDS Standard Score by Sex, Treatment and Rationality Level on Prior Job Choice (DMQ)

Source of Variation	DF	Mean Square	F	p
Main Effects	3	221.214	1.470	0.226
Rationality	1	238.906	1.587	0.210
Treatment	1	267.115	1.775	0.185
Sex	1	213.138	1.416	0.236
2-Way Interactions	3	259.402	1.724	0.166
Rationality x Treatment	1	44.357	0.295	0.588
Rationality x Sex	1	381.783	2.537	0.114
Treatment x Sex	1	338.441	2.249	0.136
3-Way Interactions	1	551.212	3.663	0.058
Rationality x Treatment x Sex	1	551.212	3.663	0.058
Explained	7	284.723	1.892	0.077
Residual	121	150.498		
Total	128	157.838		

Table 4B8

Mean Decision Quality Standard Scores on Career Simulation by Treatment and Rationality Level

Style level on prior job choice (DMQ)	Rational Training		Control	
	Mean	N	Mean	N
High Rational	60.5	34	59.5	35
Low Rational	58.5	32	56.7	31

Table 4B9

Analysis of Variance of Standard Score on CDS by Treatment, Sex, and Dependent Style (in prior movie choice)

Source of Variation	DF	Mean Square	F	p
Main Effects	3	380.495	2.534	0.060
Dependent Style (in prior movie choice)	1	783.133	5.215	0.024
Treatment	1	207.157	1.379	0.242
Sex	1	380.612	2.535	0.114
2-Way Interactions	3	155.809	1.038	0.378
Dependent Style x Treatment	1	14.577	0.097	0.756
Dependent Style x Sex	1	248.481	1.655	0.200
Treatment x Sex	1	145.577	0.969	0.327
3-Way Interactions	1	105.329	0.701	0.404
Dependent Style x Treatment x Sex	1	105.329	0.701	0.404
Explained	7	244.892	1.631	0.132
Residual	137	150.171		
Total	144	154.776		

SS225

Although deciding upon a movie and deciding upon a career are very different in terms of importance, this finding suggests that a dependency upon direction from others in a minor situation may be indicative of less success in career decision making.

We also found that subjects who had been highly intuitive in choosing a college class did worse in making a simulated decision than the less intuitive subjects (see Table 4B10). Since the intuitive approach implies a fairly brief and unsystematic perusal of options, we might expect it to produce poor results in situations as large and complex as career decisions.

In addition to these findings we observed a consistent but nonsignificant trend for fatalistic subjects to make poorer simulated career decisions. In each of the five decision situations, subjects who had reported a more fatalistic approach were less successful on the CDS than subjects low on the dimension of fatalism (see Table 4B11). Thus we have some indications that the intuitive, dependent, and fatalistic decision-making styles are associated with less effective decisions. We cannot attribute causality to these styles, however. It is quite possible that subjects with intuitive, fatalistic, or dependent styles are low on some other factor which hinders their decision-making success. The results on the intuitive style are somewhat inconsistent with the correlational data in Part A of this report where the intuitive style was often associated with satisfied decision makers. The possibility also remains that we may be capitalizing on chance since we are selecting only the most significant findings, not all the analyses computed, for presentation here.

Table 4B10

Analysis of Variance Table of Raw Score on Career Decision Simulation by Treatment, Sex, and Intuitive Style (in choice of college class)

Source of Variation	DF	Mean Square	F	p
Main Effects	3	5384.090	2.314	0.079
Intuitive Style (class choice)	1	9952.008	4.276	0.041
Treatment	1	3479.192	1.495	0.224
Sex	1	5863.867	2.520	0.115
2-Way Interactions	3	903.892	0.388	0.762
Intuitiveness x Treatment	1	556.419	0.239	0.626
Intuitiveness x Sex	1	1570.324	0.675	0.413
Treatment x Sex	1	57.558	0.025	0.875
3-Way Interactions	1	7664.367	3.293	0.072
Intuitiveness x Treatment x Sex	1	7664.367	3.293	0.072
Explained	7	3789.768	1.628	0.132
Residual	137	2327.243		
Total	144	2398.338		

Table 4B11

Means and Standard Deviations of CDS Standard Scores by Level of Fatalism and Decision Situation*

		Situation #1 Prior Job Choice	Situation #2 Prior Movie Choice	Situation #3 Prior Choice of College Class	Situation #4 Prior Choice of Major Purchase	Situation #5 Prior Choice of College
High Fatalistic	M	56.24	56.71	56.78	58.22	57.20
	SD	12.35	12.33	12.64	11.93	12.46
Low Fatalistic	M	59.36	59.37	59.22	58.29	58.77
	SD	12.28	12.38	11.82	12.41	12.10

*None of the mean differences reached significance at the .05 level.

SS 228

Who Benefits Most (And Least) From Rational Training?

A primary focus of this research project was assessment of a training program in rational decision making. Thus, the question of who benefitted most and who benefitted least from our training program is a primary concern. Our results indicate that subjects whose approach to decision making is highly consistent with certain nonrational styles did not benefit from the rational training. Subjects who had used a highly intuitive approach in selecting a major purchase and had received rational training did worse on the CDS than subjects receiving the control instruction. In contrast, their less intuitive counterparts appeared to benefit from the rational training. See Table 4B12 for the analysis of variance and Table 4B13 and Figure 4B3 for the means.

We find similar interaction patterns when the intuitive style is based upon choice of a movie and for impulsiveness based on choice of major purchase. In each case, subjects who reported more impulsive or intuitive behaviors made worse simulation decisions after the rational training session than after the control session. These interactions are summarized in Tables 4B14-4B17 and Figures 4B4 and 4B5.

We found these results interesting and suggestive. Not only was there an interaction between decision-making style and training, the highly impulsive and intuitive subjects, who could be said to be most in need of rational training, actually made worse decisions when they were given it. The rational training seemed to work better for subjects who were not as committed to an alternative style. A possible explanation may lie in the length of the training sessions. Several factors lead us to suspect that

Table 4B12

Analysis of Variance of Raw Score on CDS
by Treatment, Sex, and Intuitive Style
(in choice of major purchase)

Source of Variation	DF	Mean Square	F	p
Main Effects	3	1936.615	0.811	0.490
Intuitiveness (prior choice of major purchase)	1	15.971	[illegible].007	0.935
Treatment	1	1593.240	0.667	0.415
Sex	1	4268.688	1.788	0.183
2-Way Interactions	3	3949.526	1.655	0.180
Intuitiveness x Treatment	1	10399.234	4.357	0.039
Intuitiveness x Sex	1	172.684	0.072	0.788
Treatment x Sex	1	7.996	0.003	0.954
3-Way Interactions	1	4921.441	2.062	0.153
Intuitiveness x Treatment x Sex	1	4921.438	2.062	0.153
Explained	7	3225.696	1.351	0.231
Residual	135	2386.904		
Total	142	2428.253		

Table 4B13

Means of CDS Raw Scores by Treatment
and Intuitive Level
(on major purchase)

Style Level		Rational Training	Control
High Intuitive	M	177.26	198.27
	N	31	22
Low Intuitive	M	193.98	174.73
	N	41	52

Figure 4B3

Mean Raw Scores on CDS by Treatment
and Intuitive Level
(on major purchase)

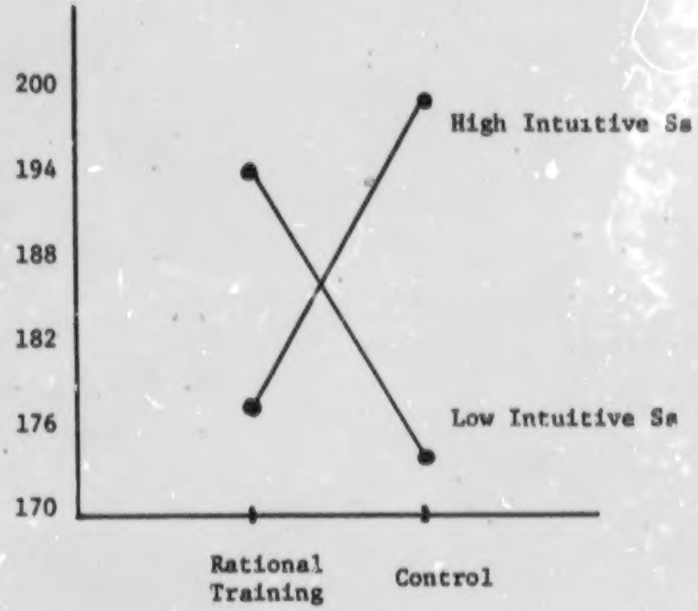


Table 4B14

Analysis of Variance of Standard Score on CDS by Treatment, Sex, and Intuitive Style (in movie choice)

Source of Variation	DF	Mean Square	F	p
Main Effects	3	173.275	1.161	0.327
Intuitiveness (prior movie choice)	1	161.472	1.082	0.300
Treatment	1	170.164	1.141	0.287
Sex	1	271.320	1.819	0.180
2-Way Interactions	3	442.470	2.966	0.034
Intuitiveness x Treatment	1	1111.688	7.451	0.007
Intuitiveness x Sex	1	1.382	0.009	0.923
Treatment x Sex	1	101.099	0.678	0.412
3-Way Interactions	1	0.189	0.001	0.972
Intuitiveness x Treatment x Sex	1	0.189	0.001	0.972
Explained	7	263.918	1.769	0.098
Residual	137	149.199		
Total	144	154.776		

Table 4B15

Mean CDS Standard Scores and Cell Sizes by Treatment and Intuitive Level (in movie choice)

		Intuitive	Style
		High	Low
Training	M	54.00	61.35
	N	25	49
Control	M	59.71	55.80
	N	24	50

Table 4B16

Analysis of Variance of Standard Score on CDS by Treatment, Sex, and Impulsive Style (in choice of major purchase)

Source of Variation	DF	Mean Square	F	p
Main Effects	3	138.740	0.911	0.438
Impulsiveness (in choice of major purchase)	1	57.869	0.380	0.539
Treatment	1	172.848	1.135	0.289
Sex	1	237.798	1.561	0.214
2-Way Interactions	3	298.017	1.956	0.124
Impulsiveness x Treatment	1	613.022	4.024	0.047
Impulsiveness x Sex	1	11.537	0.076	0.784
Treatment x Sex	1	217.270	1.426	0.234
3-Way Interactions	1	105.635	0.693	0.406
Impulsiveness x Treatment x Sex	1	105.634	0.693	0.406
Explained	7	202.273	1.328	0.242
Residual	137	152.349		
Total	144	154.776		

Table 4B17

Mean CDS Standard Scores and Cell Sizes by Treatment and Impulsive Level (in major purchase)

		Impulsive	Style
		High	Low
Training	M	56.31	61.29
	N	36	38
Control	M	58.81	55.74
	N	32	42

Figure 4B4. CDS Standard Scores as a Function of Treatment and Intuitive Style (in prior movie choice)

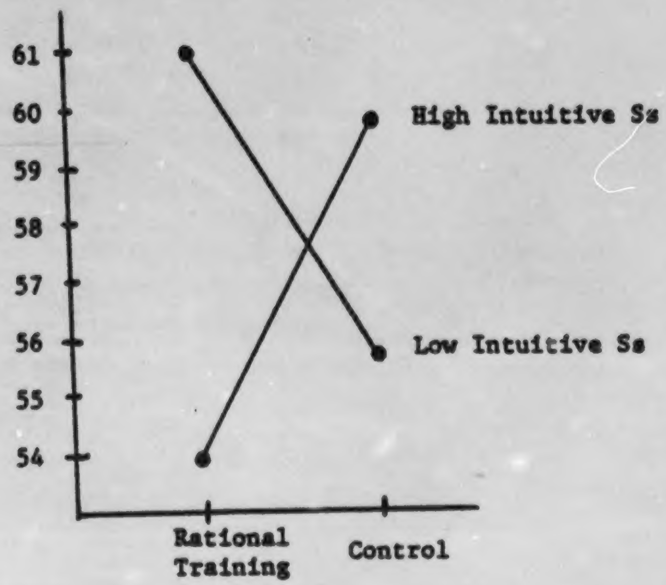
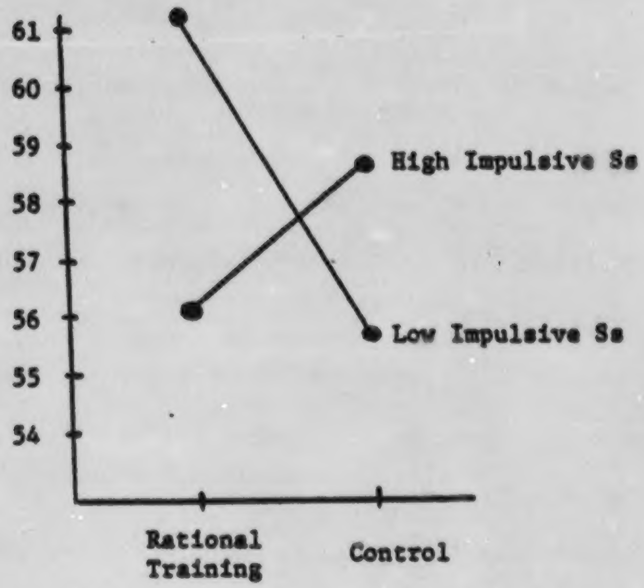


Figure 4B5. Standard Scores as a Function of Treatment and Impulsive Style (in prior choice of major purchase)



the training sessions were too short to be maximally effective. It may be that the impulsively and intuitively predisposed subjects were thrown "off-balance" by the short training session. Perhaps they were attempting the rational strategy presented to them when they took part in the CDS but, due to lack of familiarity or experience, performed it poorly. Future research might investigate whether similar results would be obtained with longer training sessions, more practice with rational approaches and more tailoring of training to people who were accustomed to alternative decision-making strategies.

What Predispositions are Associated with Knowledge about Decision Making?

We have examined outcomes on our performance measure of decision-making quality (Career Decision Simulation). We are also concerned with subjects' knowledge about decision making skills as measured by the Career Decision Making Skills Assessment Exercise (CDMSAE). Since knowledge about a skill and ability to use a skill are not identical, we might expect to see some differences between the two outcome measures.

We predicted that highly rational subjects would demonstrate more knowledge and that low rational subjects would gain more on the CDMSAE as a result of rational training than would high rationals. These predictions are parallel to those regarding CDS performance and, like the CDS predictions, they failed to be supported.

The main effects of decision-making style were fairly consistent between the decision simulation and the CDMSAE. As discussed above, the intuitive, dependent, and fatalistic styles were associated with poor decision making on the CDS. The CDMSAE reflects a similar pattern.

These results show impulsive, dependent, and fatalistic styles to be associated with less knowledge about decision-making skills. As Table 4B18 shows, subjects reporting impulsive behavior in choosing a job did not demonstrate as much knowledge of rational decision-making skills as their less impulsive counterparts. Likewise, subjects who had used a dependent strategy in choosing a college did not do as well on the CDMSAE as the less dependent decision makers (Table 4B19). On the CDS the more fatalistic subjects in each of the five decision situations tended to make less effective decisions than low fatalistic subjects. This trend is amplified in the results of the CDMSAE. Subjects who were highly fatalistic in three decision situations (choosing a job, choosing a major purchase, and choosing a college) scored significantly below the less fatalistic subjects on the knowledge assessment (Tables 4B20, 4B21, 4B22).

Confidence in Decision Making

We expected that people who were highly rational would be more confident in their decision making than those low in rationality. We found a main effect that high rationals on a prior job choice were more confident about their decision simulation than low rationals (Tables 4B23 and 4B24). Why are high rationals more confident? Is it characteristic of highly rational people to believe their decision making style is successful while low rationals are not as sure that their style will lead to good decisions? Perhaps people popularly associate rational thinking with science as the most effective problem-solving method. These questions are intriguing. Further investigation on the association of rational decision

Table 4B18

Analysis of Variance of CDMSAE Total Score by Treatment, Sex, and Impulsiveness (in prior job choice)

Source of Variation	DF	Mean Square	F	p
Main Effects	3	298.249	4[illegible]00	0.005
Impulsiveness (by prior job choice)	1	355.558	5.245	0.024
Treatment	1	65.905	0.972	0.326
Sex	1	282.552	4.168	0.043
2-Way Interactions	3	79.952	1.179	0.320
Impulsiveness x Treatment	1	150.301	2.217	0.139
Impulsiveness x Sex	1	2.934	0.043	0.835
Treatment x Sex	1	147.021	2.169	0.143
3-Way Interactions	1	1.600	0.024	0.878
Impulsiveness x Treatment x Sex	1	1.600	0.024	0.878
Explained	7	162.315	2.394	0.024
Residual	137	67.788		
Total	144	72.383		

Table 4B19

Analysis of Variance of CDMSAE Total Score by Treatment, Sex, and Dependent Style (in prior college choice)

Source of Variation	DF	Mean Square	F	P
Main Effects	3	273.748	4.263	0.007
Dependency (in college choice)	1	348.027	5.420	0.021
Treatment	1	68.537	1.067	0.303
Sex	1	268.163	4.176	0.043
2-Way Interactions	3	165.538	2.578	0.056
Dependency x Treatment	1	419.827	6.538	0.012
Dependency x Sex	1	48.192	0.751	0.388
Treatment x Sex	1	115.971	1.806	0.181
3-Way Interactions	1	141.626	2.206	0.140
Dependency x Treatment x Sex	1	141.626	2.206	0.140
Explained	7	208.498	3.247	0.003
Residual	134	64.211		
Total	141	71.374		

Table 4B20

Analysis of Variance of CDMSAE Total Score by Treatment, Sex, and Fatalistic Style (in prior job choice)

Source of Variation	DF	Mean Square	F	p
Main Effects	3	313.558	4.654	0.004
Fatalism (in prior job choice)	1	393.359	5.838	0.017
Treatment	1	73.969	1.098	0.297
Sex	1	365.754	5.428	0.021
2-Way Interactions	3	134.220	1.992	0.118
Fatalism x Treatment	1	118.745	1.762	0.187
Fatalism x Sex	1	119.823	1.778	0.185
Treatment x Sex	1	137.533	2.041	0.155
3-Way Interactions	1	18.929	0.281	0.597
Fatalism x Treatment x Sex	1	18.929	0.281	0.597
Explained	7	194.609	2.888	0.008
Residual	134	67.378		
Total	141	73.695		

Table 4B21

Analysis of Variance of CDMSAE Total Score by Treatment, Sex, and Fatalistic Style (in prior choice of major purchase)

Source of Variation	DF	Mean Square	F	p
Main Effects	3	463.681	7.253	<0.001
Fatalism (in choice of major purchase)	1	838.728	13.120	<0.001
Treatment	1	70.224	1.099	0.296
Sex	1	138.538	2.167	0.143
2-Way Interactions	3	66.612	1.042	0.376
Fatalism x Treatment	1	109.371	1.711	0.193
Fatalism x Sex	1	0.608	0.010	0.922
Treatment x Sex	1	144.410	2.259	0.135
3-Way Interactions	1	87.911	1.375	0.243
Fatalism x Treatment x Sex	1	87.911	1.375	0.243
Explained	7	239.828	3.752	0.001
Residual	136	63.926		
Total	147	72.536		

Table 4B22

Analysis of Variance of CDMSAE Total Score by Treatment, Sex, and Fatalistic Style (in prior college choice)

Source of Variation	DF	Mean Square	F	p
Main Effects	3	587.143	9.981	< 0.001
Fatalism (in college choice)	1	1291.711	21.958	< 0.001
Treatment	1	93.182	1.584	0.210
Sex	1	89.150	1.515	0.220
2-Way Interactions	3	165.400	2.812	0.042
Fatalism x Treatment	1	377.912	6.424	0.012
Fatalism x Sex	1	8.031	0.137	0.712
Treatment x Sex	1	182.823	3.108	0.080
3-Way Interactions	1	12.807	0.218	0.642
Fatalism x Treatment x Sex	1	12.807	0.218	0.642
Explained	7	324.348	5.514	0.000
Residual	132	58.827		
Total	139	72.199		

Table 4B23

Analysis of Variance of Confidence Self-Rating on CDS by Treatment, Sex, and Rationality Level (on prior job choice)

Source of Variation	DF	Mean Square	F	p
Main Effect	3	4.835	1.427	0.238
Rationality Level	1	13.901	4.103	0.045
Treatment	1	0.056	0.016	0.898
Sex	1	0.116	0.034	0.853
2-Way Interactions	3	5.439	1.605	0.192
Rationality x Treatment	1	8.552	2.524	0.115
Rationality x Sex	1	5.259	1.552	0.215
Treatment x Sex	1	1.325	0.391	0.533
3-Way Interactions	1	0.079	0.023	0.879
Rationality x Treatment x Sex	1	0.079	0.023	0.879
Explained	7	4.415	1.303	0.255
Residual	121	3.388		
Total	128	3.444		

Table 4B24

Mean Confidence Self Ratings on CDS with Standard Deviations and Cell Sizes by Rationality Level

Style Level on Prior Job Choice (DMQ)	Mean	S.D.	N
High Rational	7.9	1.4	67
Low Rational	7.3	2.2	63

making and confidence would be an important endeavor.

Since high rationals in our study were more confident than low rationals, a logical speculation might be that rational training would increase participant confidence. How might high intuitive people, for example, react to a rational training program in terms of confidence change? They presumably would have the choice of adopting or rejecting part or all of the training philosophy. We do not know to what extent they accepted or rejected the program as a group, but confidence levels by treatment and sex varied significantly (Table 4B25). As Table 4B26 shows, males who were high intuitive in a prior job choice and received rational training actually were less confident than those high intuitive males in the control group. Low intuitive males in the rational training program reported more confidence than those in the control treatment. But the opposite was true for low intuitive females: controls exceeded experimentals (see also Figure 4B6).

Why would these high intuitive males in the treatment group report such low confidence? Possibly males in our sample who were exposed to rational training contrary to their normal style had to abandon their previous style of decision making at the time of the simulation. Consequently, due possibly to a style transition, these subjects may have experienced self-doubt or a decrement in confidence regarding their ability to make good decisions. Perhaps trying out a new cognitive style is more threatening to males than to females in our culture.

Anecdotal reports by some experimenters support this idea. It was reported that some subjects who described themselves as very intuitive

Table 4B25

Analysis of Variance of Confidence Self-Rating on CDS by Treatment, Sex, and Intuitive Level (on prior job choice)

Source of Variation	DF	Mean Square	F	p
Main Effects	3	3.924	1.194	0.315
Intuitive Level	1	10.664	3.245	0.074
Treatment	1	2.030	0.618	0.433
Sex	1	0.332	0.101	0.751
2-Way Interaction	3	1.260	0.383	0.765
Intuitive x Treatment	1	1.441	0.438	0.509
Intuitive x Sex	1	1.222	0.372	0.543
Treatment x Sex	1	0.455	0.139	0.710
3-Way Interaction	1	22.979	6.993	0.009
Intuitive x Treatment x Sex	1	22.979	6.993	0.009
Explained	7	5.504	1.675	0.120
Residual	131	3.286		
Total	138	3.399		

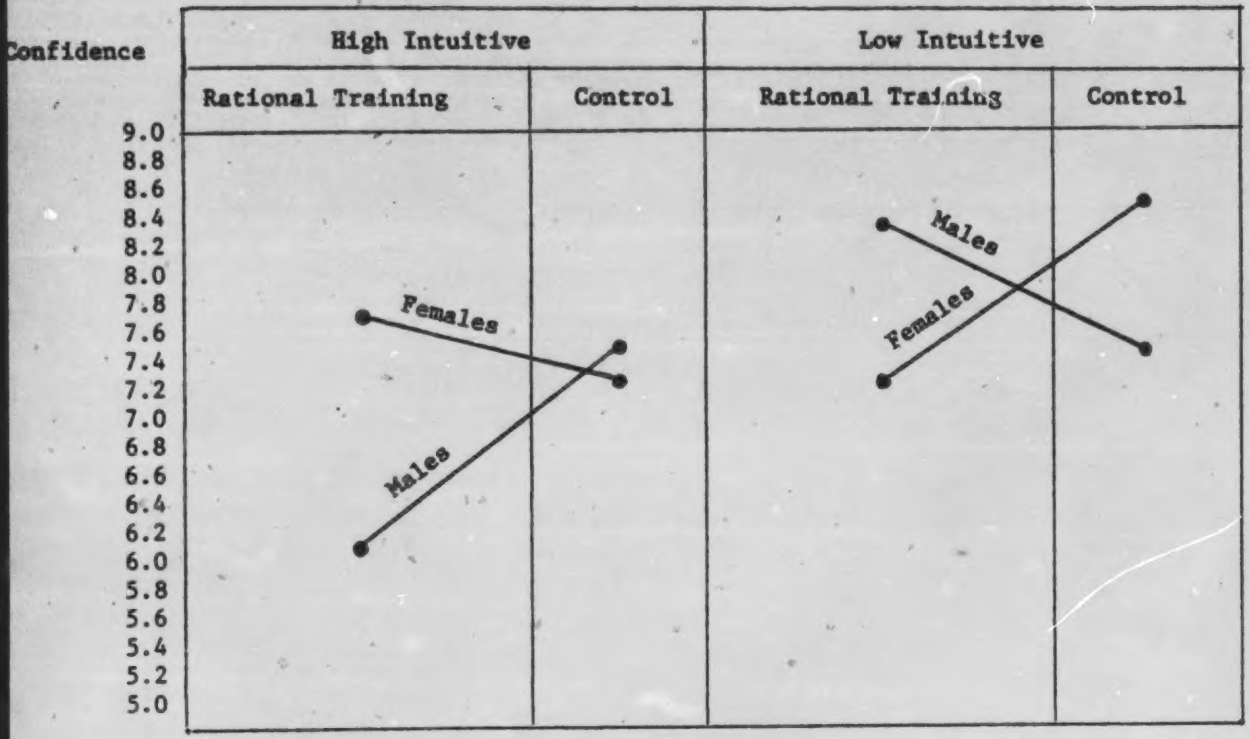
Table 4B26

Mean Confidence Self-Ratings on CDS by Sex, Treatment, and Intuitive Level (on prior job choice) with cell sizes

Style Level on Prior Job Choice (DMQ)	Sex	Rational Training		Control	
		Mean	N	Mean	N
High Intuitive	Male	6.1	6	7.5	16
	Female	7.7	23	7.3	24
Low Intuitive	Male	8.3	14	7.5	10
	Female	7.3	25	8.4	21

Figure 4B6

Mean Confidence Self-Ratings on CDS
by Treatment, Sex, and Intuitive Level
(on prior job choice)



were initially critical of rational decision making. Some of these same subjects seemed to become more convinced of the efficacy of rational training as the program progressed.

If confidence is an important and positive quality in decision making, we obviously do not want people in a rational training program to experience a loss of confidence following the training. Due to the brevity of our training program, some people may have been convinced to try the rational style, but still not feel confident using it. Perhaps a more extended training period would have increased participant confidence. It may also be possible that some kind of supplemental training or counseling would help some people maintain or increase their confidence levels. This study has tentatively isolated at least one group, high intuitive males, that may particularly benefit from more comprehensive or supplemental interventions.

Is the confidence of any other specific group of people sensitive to rational training? It seems plausible that dependent people could benefit appreciably from rational training and would tend to experience an increase of confidence because of the program. Because they are apt to rely on or be dependent upon outside influences, we could expect them to readily adopt a rational approach and believe in it. According to our results, this is not entirely true. We found a sex by treatment by dependence level interaction indicating that some dependent people gained in confidence, but others lost confidence following rational training (Table 4B27).

High dependent males (in the situation of choosing a college class) who received rational training reported more confidence in the simulation than high dependent males in the control group. Conversely, high dependent

Table 4B27

Analysis of Variance of Confidence Self-Ratings on CDS by Treatment, Sex and Dependent Level (in choosing a college class)

Source of Variation	DF	Mean Square	F	p
Main Effect	3	0.885	0.261	0.853
Dependent Level	1	0.641	0.189	0.665
Treatment	1	1.943	0.573	0.450
Sex	1	0.350	0.103	0.749
2-Way Interations	3	1.606	0.473	0.701
Dependence x Treatment	1	0.559	0.165	0.685
Dependence x Sex	1	1.654	0.488	0.486
Treatment x Sex	1	1.972	0.582	0.447
3-Way Interactions	1	25.273	7.452	0.007
Dependence x Treatment x Sex	1	25.273	7.452	0.007
Explained	7	4.678	1.379	0.219
Residual	132	3.391		
Total	139	3.456		

females in the control group were more confident than females who received rational training. Low dependent males in the control group reported relatively high confidence (see Table 4B28 and Figure 4B7).

These findings may suggest that some dependent males gain a significant boost in confidence as a result of rational training. However, high dependent females seem less confident following rational training.

Interpretation of these results must be speculative. Most relevant to our present purpose however is discovering the general phenomenon that some people may gain in confidence from a rational training program, but others (specifically high intuitive males and high dependent females) seem to experience relatively less confidence. What processes are occurring that could explain these differences? What can we do to promote confidence within these particular groups? These questions may suggest directions for future research.

Limitations and Future Research Directions

A large number of analyses were computed to uncover promising leads for future research. Only the more significant results are reported here. The general theme that has emerged is that decision maker style may well interact with the quality of decision outcomes and the confidence felt by the decision maker. Also, decision maker performance and confidence seem to be affected differentially by rational training, as a function of prior decision making style. These interactions were not hypothesized in advance and hence cannot be considered conclusive. However, they do suggest hypotheses which can be confirmed or disconfirmed in future research.

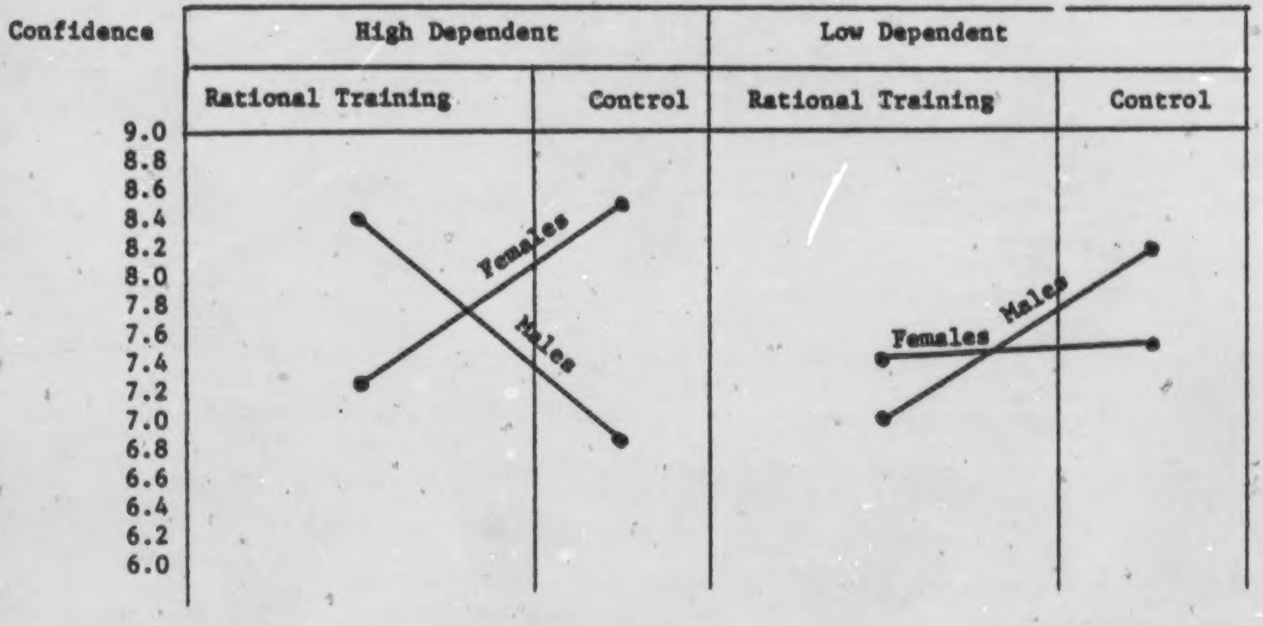
Table 4B28

Mean Confidence Self-Ratings on CDS by Sex, Treatment, and Dependent Level (in choosing a college class) with cell sizes

Style Level on Prior Job Choice (DMQ)	Sex	Rational Training		Control	
		Mean	N	Mean	N
High Dependent	Male	8.3	9	6.8	12
	Female	7.3	15	8.5	12
Low Dependent	Male	7.0	11	8.1	14
	Female	7.4	34	7.5	33

Figure 4B7

Mean Confidence Self-Ratings on CDS
by Treatment, Sex, and Dependent Level
(in choosing a college class)



In retrospect, there are several weaknesses in the design of the experiment and analysis that may have affected our results. Since we did not find high consistency of individual styles across decision situations, generalization about style behaviors in specific situations is questionable. Also, our method of designating high and low style categories by median split possibly failed to discriminate style levels adequately. Some of the situations portrayed on the DMQ contained very few specific style items. Perhaps by using more style items and taking upper and lower quartiles instead of median splits, we could have discriminated style dimensions more adequately.

It was mentioned previously that we suspect that our rational training classes may have been too short to teach rational decision making effectively. Perhaps a more comprehensive training program would have helped all subjects, regardless of their decision making style, to improve their decision making performance and confidence. We think this hypothesis deserves future attention.

Our hypotheses that high rationals make better career decisions than low rationals and that low rationals would benefit more from a rational training intervention than high rationals were not supported. However, high rationals were found to be more confident in their decision making than low rationals.

We found evidence that some intuitive and impulsive people may become less effective decision makers after rational training. Perhaps some of their beliefs must be modified before they can benefit from rational training. Would cognitive restructuring be a facilitative precursor to rational training for them or would a more comprehensive rational training program be sufficient?

We hypothesized that rational training would increase participants' confidence in their decision making. However, our results suggest that a rational training program will affect a person's confidence level as a function of his or her style and sex. Some people experienced less confidence after a training intervention. Could this also be remedied by a more comprehensive rational training session or would some other kind of confidence enhancement be more effective?

Further research is needed to investigate the relationship between decision making styles and decision outcomes. Also, specific interaction effects of style by treatment should be confirmed to aid in the design of more effective decision-making training programs. Tailoring instruction to the needs and predispositions of specific learners is one of the most complex challenges facing the profession of education.

Reference Notes

Adams, P. W. The effect of the life career simulation game upon the CDM processes of sophomore high school students. Unpublished doctoral dissertation, The University of So. Dakota, 1971.

Appel, V. H., Witzke, D. B. Goal orientation vs. self orientation: Two perspectives affecting indecision about collegiate major and career choice. Paper presented at 1972 Educational Research Assn. Annual Meeting, Chicago.

Atkinson, F. E. The effects of a simulation game upon learner's sense of control. Unpublished doctoral dissertation, Syracuse University, 1970.

Conte, A. E. Games with simulated environments: The use of Life Career with sixth grade students. Unpublished doctoral dissertation, The Pennsylvania State University, 1968.

Crawford, J., & Twelker, P. Affect through simulation: The gamesmen technologist. Teaching Research, Oregon State System of Higher Education, Mimeo.

Egner, J. R. Developing a model of occupational choice. Paper delivered to the annual meeting of the American Educational Research Assn., Chicago, Illinois, April 1974.

Hamilton, J. A. Encouraging career decision-making with group modeling and structured group counseling. Unpublished doctoral dissertation, Stanford University, 1969.

Hilton, T. L. Decision-making strategies in career development. Typed copy of the revised draft of a talk given at the meeting of the American Educational Research Association, Chicago, February 1963.

Spangenberg, R. Selection of simulation as an instructional medium. Unpublished paper presented at the AERA, 1975, Air Force Human Resources Lab., Lowry AFB, Colorado, 80230.

Bibliography

Adams, D. M. *Simulation games: An approach to learning*. Worthington, Ohio: Charles A. Jones Co., 1973.

Anthony, D. *Career-Centered Curriculum Workshop Handbook*. Albany, Mississippi: New Albany City Schools, 1971. (ERIC Document No. ED 076 798).

Bailey, S. J. Effects of a classroom simulation on selected career decision-making variables with ninth-grade students. *Dissertation Abstracts International*, 1974, May, *34*(11-a).

Baumgardner, S. R. The impact of college experiences on conventional career logic. *Journal of Counseling Psychology*, 1976, *23*(1), 40-45.

Baumgardner, S. R. Vocational planning: The great swindle. *Personnel and Guidance Journal*, 1977, *56*(1), 17-22.

Baumgardner, S. R., & Rappoport, L. *Student career decisions: The limits of rationality*. Manhattan, Kansas: Kansas State University, 1973. (ERIC No. ED 013 371)

Bell, T. H. *Career education in 1974: A view from the commissioner's desk*. Paper presented (by tele-lecture) at the National Conference for State Coordinators of Career Education; Center for Vocational Education, The Ohio State University, October, 1974.

Boardman, R., & Mitchell, C. R. Crisis decision-making and simulation. In P. J. Tansey (Ed.), *Educational Aspects of Simulation*. London: McGraw-Hill, 1971, Pp. 228-245.

Bodden, J. L. Cognitive complexity as a factor in appropriate vocational choice. *Journal of Counseling Psychology*, 1970, *17*(4), 364-368.

Bodden, J. L., & Klein, A. J. Cognitive complexity and appropriate vocational choice: Another look. *Journal of Counseling Psychology*, 1972, *19*(3), 257-258.

Bodden, J. L., & Klein, A. J. Cognitive differentiation and affective stimulus value in vocational judgments. *Journal of Vocational Behavior*, 1973, *3*, 75-79.

Boocock, S. S. An experimental study of the learning effects of two games with simulated environments. *American Behavioral Scientist*, 1966, 10-(2), 8-17.

Boocock, S. S. The life career game. *Personnel and Guidance Journal*, 1967, 45, 328-334.

Boocock, S. S., Schild, E. O., and Stoll, R. *Simulation games and control beliefs*. Final Report, 1968. ERIC Document ED 016 736.

Career Education--How to Do It. Office of Career Education, United States Office of Education. October, 1974.

Cronbach, L. J., and Snow, R. E. Individual differences in learning ability as a function of instructional variables. Final Report to USOE (Contract OEC 4-6-061269-1217). Stanford, Calif.: School of Education, Stanford University, March 1969.

Curry, J. F., Brooks, R. L. A comparison of two methods of teaching life career planning to junior high school students. Office of Education, Wash. DC, 1971. ERIC No. ED 059401.

Dinklage, L. B. Decision strategies of adolescents. Unpublished doctoral dissertation, Harvard University Graduate School of Education, 1968.

Dunn, J. Individualization of education in career education. Final report. Palo Alto, Calif.: American Institutes for Research, 1972. (ERIC Document No. ED 072 256).

Dunn, J. A., Steel, L., Melnotte, J. M., Gross, D., Kroll, J., and Murphy, S. Career education: A curriculum design and instructional objectives catalog. Palo Alto, Calif.: American Institutes for Research, 1973.

Ehrle, R. A. Vocational maturity, vocational evaluation and occupational information. Vocational Guidance Quarterly, 1970, 19, 1, 41-45.

Evans, J. R., & Cody, J. J. Transfer of decision-making skills learned in a counseling-like setting to similar and dissimilar situations. Journal of Counseling Psychology, 1969, 16, 427-432.

Farran, D. C. Games in the classroom: A scholastic teacher report. Scholastic Magazine, 1967, 1-11.

Ferrin, R. I., & Arbeiter, S. Bridging the gap: A study of education-to-work linkages. Final report summary prepared by the College Entrance Examination Board for the Education and Work Group, National Institute of Education pursuant to Contract No. NIE-C-74-0146. June, 1975.

Field, F. L. An investigation of decision-making in an education-vocational context, with implications for guidance. Unpublished doctoral dissertation, Harvard Graduate School of Education, 1964.

Garvey, D. M. Simulation: A catalogue of judgments, findings and hunches. In P. J. Tansey (Ed.), Educational Aspects of Simulation. London: McGraw-Hill, 1971, Pp. 204-225.

Gelatt, H. B. Decision making: A conceptual frame of reference for counseling. Journal of Counseling Psychology, 1962, 9, 240-245.

Gelatt, H. B. Information and decision theories applied to college choice and planning. Feb. 1966, ERIC No. ED 015486.

Gelatt, H. B., Varenhorst, B., and Carey, R. Deciding. New York: College Entrance Examination Board, 1972.

George, A. Adaptation to stress in political decision-making: The individual, small group, and organizational contexts. In G. V. Coelho, D. A. Hamburg, and J. E. Adams (Eds.), Coping and adaptation. New York: Basic Books, 1974.

Goodenough, D. R. The role of individual differences in field dependence as a factor in learning and memory. Psychological Bulletin, 1976, 83(4), 675-694.

Groome, A. J. Interaction effects in life career simulation. Simulation & Games, 1975, 6, 3.

Gysbers, N. C., Drier, H. N., Jr., and Moore, E. J. Career Guidance: Practice and Perspectives. Worthington, Ohio: Charles A. Jones, 1973.

Handbook for the Evaluation of Career Education Programs. Wash. D.C.: Bureau of Occupational and Adult Education, U.S. Office of Education, Department of Health, Education, and Welfare. (Contract No. OEC-0-73-6663), 1974.

Harren, V. A. Assessment of career decision-making. American College Testing Program. Iowa City, Iowa, 1976.

Harris, R. J. Experimental games as tools for personality research. In P. McReynolds (Ed.), Advances in Psychological Assessment, Vol. II. Palo Alto: Science & Behavior Books, 1971, Pp. 236-259.

Hilton, T. L., Baenninger, R., & Korn, J. H. Cognitive processes in career development (Cooperative Research Project No. 1046). Pittsburg, Pa.: Carnegie Institute of Technology, 1962.

Holland, J. L. The psychology of vocational choice. Waltham, Mass.: Blaisdell, 1966.

Hoppock, R. Occupational Information. New York: McGraw-Hill, 1976.

Howard, W. J. Vocational decision-making ability and its relationship to the theory of thinking. Dissertation Abstracts International, 1973, Nov. 34(5-19), 2473.

Hoyt, K. B. Career education: Strategies and dilemmas. Paper presented at the State Directors of Vocational Education Leadership Seminar, Columbus, Ohio, September 1974.

Hoyt, K. B. An introduction to career education: A policy paper of the U.S. Office of Education (DHEW Publication No. (OE 75-00504) Wash. D.C.: U.S. Government Printing Office, 1975. (a)

Hoyt, K. Career education and teacher education. Paper presented at the USOE Career Education and Teacher Education Conferences in Philadelphia, Kansas City, and Salt Lake City, March 4, March 18, and April 30, 1975 (b)

Hoyt, K. B. Career education: Contributions and challenges. Paper presented at the National Conference on Career Education held to commemorate the 10th Anniversary of the Center for Vocational and Technical Education, The Ohio State University, March, 1975. (c)

Hunt, D. E. Matching models in education. Toronto: Ontario Institute for Studies in Education, 1971.

Janis, I. R., & Mann, L. Decision making: A psychological analysis of conflict, choice, and commitment. New York: The Free Press, 1977.

Jepsen, D. A., & Dilley, J. S. Vocational decision-making models: A review and comparative analysis. Review of Educational Research, 1974, 44(3), 331-349.

Johnson, R. H. The life career game and decision-making among ninth graders. Canadian Counsellor, 1971, 5, 4, 257-262.

Johnson, H., & Mynck, R. D. MOLD: A new approach to career decision-making. Vocational Guidance Quarterly, 1972, 21, 4, 48-52.

Jones, E., Kanouse, D., Kelley, H., Nisbett, R., Valins, S., & Weiner, B. Attribution: Perceiving the causes of behavior. Morristown, N.J.: General Learning Press, 1972.

Kagan, J., & Kogan, N. Individual variation in cognitive processes. In P. H. Mussen (Ed.), Carmichael's manual of child psychology Vol. 1. New York: Wiley, 1970.

Kaldor, D. R., & Zytowski, D. G. A maximizing model of occupational decision-making. Personnel and Guidance Journal, 1969, 47, 8, 781-88.

Katz, M. Decisions and values. New York: College Entrance Examination Board, 1963.

Katz, M. R. Career decision-making: A computer-based system of interactive guidance and information (SIGI). Educational Testing Service, 1973.

Katz, M. R. Simulated occupational choice: A measure of competencies in career decision-making. Final Report. National Institute of Education (DHEW), Wash. D.C., February 1976. ERIC No. ED 121841.

Kogan, N. Educational implications of cognitive styles. In G. S. Lesser (Ed.), Psychology and educational practice. Glenview, Ill.: Scott, Foreman and Co., 1971.

Krumboltz, J. D. Behavioral goals for counseling. Journal of Counseling Psychology, 1966, 13, 153-159.

Krumboltz, J. D. A social learning theory of career decision making. In A. M. Mitchell, G. B. Jones, and J. D. Krumboltz (Eds.), A social learning theory of career decision making. Palo Alto, Calif.: American Institutes for Research, 1975. Pp. 13-39.

Krumboltz, J. D. A social learning theory of career decision-making. In A. M. Mitchell, G. B. Jones, and J. D. Krumboltz (Eds.), Social learning and career decision-making. Cranston, R.I.: Carroll Press, 1979.

Krumboltz, J. D., & Baker, R. D. Behavioral counseling for vocational decisions. In H. Borow (Ed.), Career guidance for a new age. Boston: Houghton Mifflin Co., 1973.

Krumboltz, J. D., & Hamel, D. Guide to career decision-making skills. New York: College Entrance Examination Board, 1977.

Krumboltz, J. D., & Schroeder, W. W. Promoting career exploration through reinforcement. Personnel and Guidance Journal, 1965, 44, 19-26.

Krumboltz, J. D., & Thoresen, C. E. The effect of behavioral counseling in group and individual settings on information seeking behavior. Journal of Counseling Psychology, 1964, 11, 324-333.

Lunneborg, P. W. Sex and career decision-making styles. Journal of Counseling Psychology, 1978, 25(4), 299-305.

Malik, H. S. Personality and career decision-making. Saskatchewan Training School, Saskatchewan, Canada, ERIC No. ED 054498.

McCaleb, O. Project vigor: Vocational cluster education, integrated and articulated grades 1 through 14 with guidance services, occupational exploration and work experience relevant to general education. First interim report. Portland, Oregon: David Douglas Public Schools, 1971. (ERIC Document No. ED 058 518).

Meckley, R. F. Simulation in leadership training. American Vocational Journal, 1970, 45, 6, 26-40.

Messick, S. Beyond structure: In search of functional models of psychological process. Psychometrika, 1972, 37, 357-375.

Messick, S. Multivariate models of cognition and personality: The need for both process and structure in psychological theory and measurement. In J. R. Royce (Ed.), Multivariate analysis and psychological theory. New York: Academic Press, 1973.

Messick, S. Personality consistencies in cognition and creativity. In S. Messick (Ed.), Individuality in learning: Implications in cognitive styles and creativity for human development. San Francisco: Jossey-Bass, Inc., 1976.

Miller, D. W., & Starr, M. K. The structure of human decisions. Englewood Cliffs, N.J.: Prentice-Hall, 1967.

Miller, G. P. The impact of a decision-making curriculum on junior and senior high school students. Dissertation Abstracts International, 1974, 34(8-19), 4754-4755.

Nagasawa, R. H. Research with simulation games: An analysis of success striving behavior. Simulation & Games, 1970, 1, 4, 377-389.

Nickerson, R. S., & Feehrer, C. E. Decision making training: A review of theoretical and empirical studies of decision making and their implications for the training of decision makers. JSAS Catalog of Selected Documents in Psychology, 1977, 7(2), 50. (Ms. No. 1487)

Nunnaly, J. C. Psychometric theory. McGraw-Hill: New York, 1978.

O'Rourke, K. Career education guide. Altoona, Pennsylvania: Altoona Area School District, 1975.

Osipow, S. H. Theories of career development. New York: Appleton-Century-Crofts, 1968.

Programs and practices in life career development processes. APGA-Impact-ERIC/CAPS Workshop on Life Career Development, 1974.

Quatrano, L. Group experiences in building planning strategies. Elementary School Guidance & Counseling, 1974, 8, 3, 173-181.

Rhett, W. P. Effects of a simulation game on autonomy and life career planning of black senior high males. Dissertation Abstracts International, 1974, 34(9-A, Pt 1) 5729.

Robinson, J. A. Teaching with inter-nation simulation and case studies. The American Political Science Review, 1966, 60, 65.

Roe, A., & Baruch, R. Factors influencing occupational decisions: A pilot study. Harvard studies in career development (Vol. 32).

Silber, E., Coelho, G. V., Murphey, E. B., Hamburg, D. A., Pearlin, L. I., & Rosenberg, M. Competent adolescents coping with college decisions. Archives of General Psychiatry, 1961, 5, 517-527.

Simon, H. A. Administrative behavior: A study of decision-making processes in administrative organization (3rd ed.). New York: Free Press, 1976.

Sloan, N. Orientation approaches to increase student awareness of occupational options. Ann Arbor, Michigan: The University of Michigan, 1969.

Stadskler, R. Handbook of Simulation Gaming in Social Education (Textbook & Directory). Institute of Higher Education Research & Services, The Univ. of Alabama, 1974.

Streufert, D. E. Differential classroom effects upon the vocational decision-making processes of male college students grouped according to conceptual level. Unpublished doctoral dissertation, University of Iowa, 1975.

Super, D. E. Manual for work values inventory. Houghton Mifflin, 1970.

Super, D. E., and Forrest, D. J. Career Development Inventory Preliminary Manual. New York: Teachers College, Columbia University, 1972.

Super, D. E., Stavishevsky, R., Matlin, N., and Jordaan, J. P. Career development: Self-concept theory. New York: College Entrance Examination Board, 1963.

Talbot, W. Utah model for career guidance K-12. Salt Lake City: Utah State Board of Education, Division of Special Services, 1972. (ERIC Document No. ED 079 516).

Tallman, I., & Wilson, L. Simulating social structure: The use of a simulation game in cross-national research. Simulation & Games, 1974, 5, 2, 147-167.

Thoresen, C. E., & Ewart, C. K. Behavioral self-control and career development. The Counseling Psychologist, 1976, 6(3), 29-43.

Tiedeman, D. V. Decision and vocational development: A paradigm and its implications. Personnel and Guidance Journal, 1961, 40, 15-20.

Tversky, A. Elimination by aspects: A theory of choice. Psychological Review, 1972, 79, 281-299.

Twelker, P. Simulation and media. In P. J. Tansey (Ed.), Educational Aspects of Simulation. London: McGraw-Hill, 1971, Pp. 131-184.

Unruh, W. R. Theory construction and evaluation. In A. M. Mitchell, G. B. Jones & J. D. Krumboltz (Eds.), A social learning theory of career decision making. Final Report, Contract No. NIE-C-74-0134. Palo Alto, Calif.: American Institute for Research, 1975.

Varenhorst, B. Game theory, simulations & group counseling. Educational Technology, 1973, February, 40-43.

Walker, H. & Lev, J. Elementary statistical methods. New York: Holt, Rinehart & Winston, 1969.

Weinhold, K. The development of construct validity for vocational problem solving ability through the use of a simulated environment game. Dissertation Abstracts International, 1969, 30(1-A), 143-144.

Witkin, H. A. Cognitive style in academic performance and in teacher-student relations. In S. Messick (Ed.), Individuality in learning: Implications of cognitive styles and creativity for human development. San Francisco: Jossey-Bass, Inc., 1976.

Witkin, H. A., Oltman, P. K., Raskin, E., & Karp, S. A. A manual for the embedded figures tests. Palo Alto, Calif.: Consulting Psychologists Press, 1971.

Yoon, K. Occupational information and guidance service center. Final report. Honolulu, Hawaii: Hawaii University and Honolulu Community College System, 1972. (ERIC Document No. ED 067 461).

APPENDIX A

DECISION MAKING QUESTIONNAIRE

Appendix A

Page

Decision-Making Questionnaire 241

Means and Standard Deviations for the Rating Scales of Decision Importance, Confidence, Satisfaction, and the Frequencies of "Yes" and "No" Responses to Individual DMQ Items 271

Name ______________________________

Address ______________________________

City, State, Zip ______________________

Local Phone No. ______________________

(1-4) ☐☐☐ ☐1

(5-8) Date today ________________________

(9) Sex: M____

F____

(10) Age: 17 - 20 ____

21 - 25 ____

26 - 30 ____

31 or over____

DECISION MAKING QUESTIONNAIRE

(Experimental Edition)

Directions: On the following pages you will find questions about five decisions you have made. You will be asked to recall what you did, said or thought before and after making these decisions. Answer frankly as best you can. Do not skip any questions.

School of Education
Stanford University
Stanford, CA 94305

I. Decision Situation: Deciding on a job.

Name the last job (part or fulltime) that you decided to take ______

____

When did you start that job?

(11-14) Month ______________ Year ______________

When did you quit?

(15-19) Month ______________ Year ______________ I still have the job ☐

At the time the choice to accept this job had to be made, how important was this decision to you? (Circle a number)

(20-21)

0	1	2	3	4	5	6	7	8	9	10
not important at all				moderately important						very important

(22-23) After the decision was made but before you started working, how confident were you that the decision was a good one? (Circle a number)

0	1	2	3	4	5	6	7	8	9	10
not confident at all				moderately confident						very confident

(24-25) Immediately after you began working (end of first day) how satisfied were you with the decision to take this job? (Circle a number)

0	1	2	3	4	5	6	7	8	9	10
not satisfied at all				moderately satisfied						very satisfied

(26-27) Right now, looking back at the job how satisfied are you with that decision to take it? (Circle a number)

0	1	2	3	4	5	6	7	8	9	10
not satisfied at all				moderately satisfied						very satisfied

Mark an X in the appropriate boxes to indicate which of the following items describes your actions, statements or thoughts before choosing this job.

1. Yes No

(28) ☐ ☐ I made a follow-up call(s) to the employer shortly after I had applied to this job.

2. Yes No

(29) ☐ ☐ I used different sources of information to help me find out about specific job possibilities. If you marked "yes", what sources did you use?

(30) ☐ Friend(s)
(31) ☐ Personnel offices of employers
(32) ☐ Parent(s)
(33) ☐ Teacher(s)
(34) ☐ Relative(s)
(35) ☐ Counselor(s)
(36) ☐ The school job placement office
(37) ☐ Newspaper(s)
(38) ☐ Radio or TV
(39) ☐ State Employment Service
(40) ☐ Private Job placement service
(41) ☐ Advertisements
(42) ☐ Personal Experience
(43) ☐ Other sources

3. Yes No

(44) ☐ ☐ I decided to take this job based mostly on a belief that you really can't tell whether you'll like a job until you experience it so you just have to take a chance and hope it works out.

4. Yes No

(45) ☐ ☐ I thought about

(46) ☐ ☐ I wrote a list of

(47) ☐ ☐ I described to someone

the types of jobs that I would consider. If you marked "yes", how many different types of jobs did you think about?

(48)
☐ One
☐ Two
☐ Three
☐ Four
☐ More than four

5. Yes No

(49) ☐ ☐ I thought

(50) ☐ ☐ I said to someone

that I needed to spend some time thinking about what I wanted from a job.

6. Yes No

(51) ☐ ☐ Based mostly on a momentary impulse, I quickly took a job that was offered to me.

7. Yes No

(52) ☐ ☐ Getting a good job seemed to be mostly a matter of just being lucky so when this job was offered to me I took it and hoped for the best.

8. Yes No

(53) ☐ ☐ I talked with other people who had worked at job(s) like the one(s) I was considering to find out whether the job(s) would give me what I wanted.

9. Yes No

(54) ☐ ☐ I thought about

(55) ☐ ☐ I wrote a list of

(56) ☐ ☐ I described to someone

the characteristics or features of the type of job I wanted.

10. Yes No

(57) ☐ ☐ As soon as I knew there was a job opening I applied for it immediately without thinking much about it.

11. Yes No

(58) ☐ ☐ I took this job mostly because I knew a person who liked a similar job.

12. Yes No

(59) ☐ ☐ I thought about

(60) ☐ ☐ I described to someone

the reasons why I needed a job.

13. Yes No

(61) ☐ ☐ I don't bother to search for a job(s) because eventually something comes along and when this one did I took it and hoped it would work out.

14. Yes No

(62) ☐ ☐ I decided to take this job based mostly on some strong images and impressions of how it might be.

15. Yes No

(63) ☐ ☐ I thought about

(64) ☐ ☐ I rated

the jobs for which I might apply and eliminated the least desirable.

16. Yes No

(65) ☐ ☐ I thought about

(66) ☐ ☐ I wrote a list of

(67) ☐ ☐ I described to someone

the things I would gain by getting a job and what I would be giving up.

17. Yes No

(68) ☐ ☐ My decision to take this job was based mostly on the advice of another person(s) who convinced me that it would be a good job to have.

18. Yes No

(69) ☐ ☐ Based mostly on a spur of the moment impulse I applied for the job and got it.

19. Yes No

(70) ☐ ☐ I applied for a number of other jobs in case my first choice did not work out. If you marked "yes", how many?

(71)
☐ One
☐ Two
☐ Three
☐ Four
☐ More than four

20. Yes No

(72) ☐ ☐ I chose this job based mostly on an immediate sense of knowing that it was what I wanted because something about it just felt right to me.

21. Yes No

(73) ☐ ☐ I decided to take this job over any other possible jobs because by comparison it seemed like it would give me the benefits that were most important to me.

22. Yes No

(74) ☐ ☐ I thought

(75) ☐ ☐ I said to someone

that I had to set aside some time to look for a job.

23. Yes No

(76) ☐ ☐ I took this job because my friend(s) convinced me that I should take it.

24. Yes No

(77) ☐ ☐ I based my decision to take this job mostly on some positive gut feelings that I had about it.

25. Before applying

Yes No

(78) ☐ ☐ I contacted the employers by phone

(79) ☐ ☐ I appeared in person

(80) ☐ ☐ I wrote

to find out more about the jobs.

(1-4) ☐☐☐ 2

26. Yes No

(5) ☐ ☐ I thought about

(6) ☐ ☐ I wrote a list of

(7) ☐ ☐ I described to someone

how important the various benefits were that I wanted to get from a job.

II. Decision Situation: Deciding on which movie to see.

Name the last film that you saw at a movie theater?

____

How long has it been since you've seen that movie?

(8)
- ☐ Within the past week
- ☐ 1 to 4 weeks
- ☐ 1 to 6 months
- ☐ 6 months to 1 year
- ☐ More than 1 year

At the time that you were deciding to see this movie, but before you saw it, how important was it that you make a good choice? (Circle a number)

(9-10) 0 1 2 3 4 5 6 7 8 9 10

not important at all	moderately important	very important

After the decision was made but before you actually saw the movie, how confident were you that the decision was a good one? (Circle a number)

(11-12) 0 1 2 3 4 5 6 7 8 9 10

not confident at all	moderately confident	very confident

Immediately after you had seen the movie how satisfied were you with the decision to see it? (Circle a number)

(13-14) 0 1 2 3 4 5 6 7 8 9 10

not satisfied at all	moderately satisfied	very satisfied

Right now, remembering the movie, how satisfied are you with the decision to see it? (Circle a number)

(15-16) 0 1 2 3 4 5 6 7 8 9 10

not satisfied at all	moderately satisfied	very satisfied

Mark an X in the appropriate boxes to indicate which of the following items describes your actions, statements or thoughts before seeing this movie.

27. Yes No

(17) ☐ ☐ I went to see this movie mostly because another person convinced me that I should see it.

28. Yes No

(18) ☐ ☐ I considered another movie(s) before I decided to see this one. If you marked "yes", how many others did you consider?

(19)
☐ One other movie
☐ Two other movies
☐ Three other movies
☐ More than three movies

29. Yes No

(20) ☐ ☐ I compared the locations of two or more theatres that were showing this picture.

30. Yes No

(21) ☐ ☐ I made my decision based mostly on an immediate sense of knowing that the movie would be a good one.

31. Yes No

(22) ☐ ☐ I obtained information about this movie before I made my decision to see it. If you marked "yes", what sources of information did you obtain?

(23) ☐ Movie reviews. How many?

(24)
☐ One
☐ Two
☐ More than two

(25) ☐ Opinions of friends. How many?

(26)
☐ One
☐ More than one

(Contd. on next page)

(27) ☐ Newspaper advertisements

(28) ☐ TV or radio advertisements

(29) ☐ Other

32. Yes No

(30) ☐ ☐ Based mostly on a momentary impulse I made a quick decision to see this movie.

33. Yes No

(31) ☐ ☐ I saw this movie based mostly on another person's opinion that it was a good one.

34. Yes No

(32) ☐ ☐ I thought about the mood I wanted to be in (i.e., happy, sad, frightened, romantic, adventurous) and then looked for a movie to get me in that mood.

35. Yes No

(33) ☐ ☐ I picked a movie and hoped it would be good but I didn't spend time comparing different movies because I believe that you can't tell what movies are really like until you actually see them.

36. Yes No

(34) ☐ ☐ I chose this movie because by comparison with other(s) it seemed like it would give me the benefits I wanted.

37. Yes No

(35) ☐ ☐ I compared the actors and actresses that were appearing in two or more movies before I made my choice.

38. Yes No

(36) ☐ ☐ I considered the cost of the movie before I went.

39. Yes No

(37) ☐ ☐ I thought about the amount of time that I had to make the decision and what would be the best method for deciding within that time limit.

40. Yes No

(38) ☐ ☐ On the spur of the moment I went to a theater to occupy my time.

41. Yes No

(39) ☐ ☐ Choosing a good movie seemed to be mostly a matter of luck so I decided to pick one and hope that it would turn out to be good.

42. Yes No

(40) ☐ ☐ I decided to see this movie based mostly on some strong images and impressions that I got from the title and advertisements that I saw.

43. Before I even considered seeing a movie

Yes No

(41) ☐ ☐ I thought

(42) ☐ ☐ I said to someone

that I/we should plan how to spend the period of time that I/we had.

44. Yes No

(43) ☐ ☐ I picked a movie and hoped that it would be a good one because there wasn't anything else that I could do about it.

45. Yes No

(44) ☐ ☐ I picked this movie based mostly on what I heard another person say about it.

46. Yes No

(45) ☐ ☐ I picked this movie mostly because something about it gave me an immediate sense of knowing that it would be satisfying.

47. Yes No

(46) ☐ ☐ Without thinking much about it I made a fast decision to see this movie.

III. Decision Situation: Deciding on which college to attend.

When did you begin attending this college for the first time?

(47-48) Year 19__

(49) Quarter ☐ Aut ☐ Win ☐ Spr ☐ Sum

(50) Semester ☐ Fall ☐ Spr ☐ Sum

At the time a choice had to be made, how important was this decision to you? (Circle a number)

(51-52) 0 1 2 3 4 5 6 7 8 9 10

not important at all — moderately important — very important

After the decision was made but before you attended the college, how confident were you that the decision was a good one? (Circle a number)

(53-54) 0 1 2 3 4 5 6 7 8 9 10

not confident at all — moderately confident — very confident

Immediately after you began attending the college (at the end of the first week) how satisfied were you with the decision to go there? (Circle a number)

(55-56) 0 1 2 3 4 5 6 7 8 9 10

not satisfied at all — moderately satisfied — very satisfied

Right now, looking back at your college experiences, how satisfied are you with the decision to go there? (Circle a number)

(57-58)

0	1	2	3	4	5	6	7	8	9	10
not satisfied at all				moderately satisfied						very satisfied

Mark an X in the appropriate boxes to indicate which of the following items describe your actions, statements or thoughts before choosing this college.

48. Yes No

(59) ☐ ☐ I chose this college because other person(s) decided to attend and she/he convinced me to go there.

49. Yes No

(60) ☐ ☐ I just chose an available college based mostly on the belief that success in life is more a matter of getting some lucky breaks than anything we can do about it ahead of time.

50. Yes No

(61) ☐ ☐ I obtained information about one or more other colleges before I made my decision. If you marked "yes", how many?

(62)
☐ One
☐ Two
☐ Three
☐ Four
☐ More than four

51. Yes No

(63) ☐ ☐ I got some information from talking with another person(s) who was familiar with the college to find out what she/he thought of it. If you marked "yes", how many persons?

(64)
☐ One
☐ Two
☐ Three
☐ More than three

52. Yes No

(65) ☐ ☐ I chose this college but I didn't spend much time comparing among colleges because I believe the things that would make one college better than another can't really be known until you actually experience them.

53. Yes No

(66) ☐ ☐ Based mostly on a momentary impulse I quickly chose a college that I thought I could get into.

54. Yes No

(67) ☐ ☐ I compared one or more other colleges with this one to find out which one would give me the most benefits.

55. Yes No

(68) ☐ ☐ I chose this college based mostly on the opinions of other people who convinced me that it was the place I should go. If you marked "yes", which people influenced your decision?

(69) ☐ Relatives
(70) ☐ Teachers
(71) ☐ Husband/wife
(72) ☐ Parents
(73) ☐ Counselor
(74) ☐ Friends
(75) ☐ Girlfriend/Boyfriend
(76) ☐ Clergyman
(77) ☐ Boss
(78) ☐ Other

(1-4) ☐☐☐ $\boxed{3}$

56. Which of the following kinds of information about this college did you consider before the decision was made to attend?

	Yes	No	
(5)	☐	☐	Chances of being admitted
(6)	☐	☐	Social atmosphere
(7)	☐	☐	Location of the colleges
(8)	☐	☐	Tuition costs
(9)	☐	☐	Academic reputation
(10)	☐	☐	Academic difficulty
(11)	☐	☐	Recreational activities that were offered
(12)	☐	☐	How much it would allow me to engage in non-academic interests.
(13)	☐	☐	Kinds of classes that were offered
(14)	☐	☐	Other

57.

	Yes	No	
(15)	☐	☐	Based mostly on the spur of the moment, I picked this college.

58.

	Yes	No	
(16)	☐	☐	I thought about
(17)	☐	☐	I discussed with another person
(18)	☐	☐	I made a list of

the benefits of going to the college(s) I was considering.

59. Yes No

(19) ☐ ☐ I applied to this college based mostly on the belief that if it would turn out to be good it just would and there was really nothing that I could do beforehand to tell whether it would be good.

60. Yes No

(20) ☐ ☐ I thought about

(21) ☐ ☐ I described to someone

a method I was using for comparing different colleges.

61. Yes No

(22) ☐ ☐ I found out the kinds of grades people got at the college(s) who had high school grades and test scores that were similar to my own.

62. Yes No

(23) ☐ ☐ I decided to attend this college because my friends had decided to attend.

63. Yes No

(24) ☐ ☐ I thought that

(25) ☐ ☐ I said to someone that

I needed to spend some time thinking about what was important for me to get from a college.

64. Yes No

(26) ☐ ☐ Even though I can't explain it, I made my decision based mostly on feeling a strong sense of assurance that going there would be the right thing for me to do.

65. Yes No

(27) ☐ ☐ Without thinking much about it I made a fast decision and enrolled in this college.

66. Yes No

(28) ☐ ☐ Even though I can't explain it in detail, my decision was based mostly on the good feelings, images, and impressions that I had about this college.

67. Yes No

(29) ☐ ☐ I estimated how well I would do in the college(s) that I was considering by comparing the(ir) academic rating(s) with an assessment of my own abilities. If you marked "yes", which of the following kinds of information did you use to assess your abilities:

(30) ☐ Past grades

(31) ☐ Test scores (i.e., scholastic aptitude test)

(32) ☐ Talks with friends

(33) ☐ Comparisons with the grades or skills of others going there

(34) ☐ Talks with my teacher(s)

(35) ☐ Talks with my husband/wife/boyfriend/girlfriend

(36) ☐ My own beliefs about my abilities

(37) ☐ Talks with my counselor

(38) ☐ Other

68. Yes No

(39) ☐ ☐ My decision was based mostly on how I pictured myself at the college and how I imagined it would be.

69. Yes No

(40) ☐ ☐ I studied the course catalog(s) to make sure that the college I chose would give me what I wanted.

70. Yes No

(41) ☐ ☐ I thought about
(42) ☐ ☐ I described to another person
(43) ☐ ☐ I made a list of

what I wanted to get out of going to college.

71. Yes No

(44) ☐ ☐ I set aside certain periods of time that I used for getting information about the college(s).

72. Yes No

(45) ☐ ☐ I chose this college because by comparison with others it seemed like it would give me the benefits that were most important to me.

IV. Decision Situation: Deciding to buy something expensive.

Name the one most expensive purchase that you made within the past year? ________________________________

How long ago did you make that purchase?

(46)
☐ Within the past week
☐ 1 to 4 weeks ago
☐ 1 to 6 months ago
☐ Over 6 months ago

At the time a choice had to be made how important was this decision to you? (Circle a number)

(47-48) 0 1 2 3 4 5 6 7 8 9 10

not important at all — moderately important — very important

After the decision was made but before you actually made your purchase, how confident were you that the decision was a good one? (Circle a number)

(49-50)

0	1	2	3	4	5	6	7	8	9	10
not confident at all				moderately confident						very confident

Immediately after you made your purchase, how satisfied were you with the decision to purchase this item? (Circle a number)

(51-52)

0	1	2	3	4	5	6	7	8	9	10
not satisfied at all				moderately satisfied						very satisfied

Right now, remembering the purchase, how satisfied are you with the decision to purchase that item? (Circle a number)

(53-54)

0	1	2	3	4	5	6	7	8	9	10
not satisfied at all				moderately satisfied						very satisfied

Mark an X in the appropriate boxes to indicate which of the following items describe your actions, statements or thoughts before making this purchase.

73. Yes No

(55) ☐ ☐ I chose this purchase over any other possible purchases because by comparison it seemed like it would give me the benefits that were most important to me.

74. Yes No

(56) ☐ ☐ I thought about

(57) ☐ ☐ I wrote a list of

(58) ☐ ☐ I described to someone

what I might be giving up in the future by making this purchase at that time.

75. Yes No

(59) ☐ ☐ I made my decision based mostly on some strong images and impressions of how this purchase would be.

76. Yes No

(60) ☐ ☐ I carefully inspected my purchase at the time I was buying it to make sure that it was exactly what I wanted.

77. Yes No

(61) ☐ ☐ I talked with another person who had made a similar purchase as one way of finding out if this purchase would give me what I wanted. If you marked "yes", how many people did you talk to?

(62)
☐ One
☐ Two
☐ Three
☐ More than three

78. Yes No

(63) ☐ ☐ I thought about
(64) ☐ ☐ I wrote a list of
(65) ☐ ☐ I described to someone

what immediate benefits I might be getting by making this purchase at that time.

79. Yes No

(66) ☐ ☐ I made this purchase mostly because another person(s) convinced me that it would be a good thing to do.

80. Yes No

(67) ☐ ☐ I made this purchase based mostly on a spur of the moment impulse.

81. Yes No

(68) ☐ ☐ I thought about

(69) ☐ ☐ I wrote a list of

(70) ☐ ☐ I described to someone

the specific benefits that I wanted from this purchase.

82. Yes No

(71) ☐ ☐ I made this purchase based mostly on the belief that you can't tell beforehand whether you'll be satisfied with a purchase in the future because the future is so unpredictable.

83. Yes No

(72) ☐ ☐ I thought about

(73) ☐ ☐ I wrote a list of

(74) ☐ ☐ I described to someone

the specific reasons why this purchase was more important to make at that time than any other possible purchase(s) could have made.

84. Yes No

(75) ☐ ☐ I made my decision mostly because I felt an immediate sense of knowing that this purchase would be a good one.

(1-4) ☐☐☐ 4

85. Yes No

(5) ☐ ☐ I thought about

(6) ☐ ☐ I wrote a list of

(7) ☐ ☐ I described to someone

what I might be giving up *immediately* by making this purchase at that time.

86. Yes No

(8) ☐ ☐ I obtained different kinds of information about this purchase before I decided to buy it. If you marked "yes", what kinds of information did you obtain?

Yes No

(9) ☐ ☐ Comparative type reports (e.g., *Consumers Bulletin*)

(10) ☐ ☐ Technical articles or reports

(11) ☐ ☐ Magazine Articles

(12) ☐ ☐ Opinions of relatives

(13) ☐ ☐ Opinions of friends

(14) ☐ ☐ Opinion of husband or wife

(15) ☐ ☐ Advertisements

(16) ☐ ☐ Direct personal experience

(17) ☐ ☐ Direct observations of people using the purchase

(18) ☐ ☐ Opinions of others. If "yes" how many?

(19) ☐ One
☐ Two
☐ Three
☐ More than three

(20) ☐ Other

87. Yes No

(21) ☐ ☐ I believe that you can't really tell which of several possible purchases is the "better" purchase beforehand so it didn't matter which specific purchase I made as long as it was something I wanted.

88. Before I made this purchase

Yes No

(22) ☐ ☐ I thought about

(23) ☐ ☐ I wrote a list of

(24) ☐ ☐ I described to someone

a number of other possible purchases that I could make with the money.

89. Yes No

(25) ☐ ☐ I made this purchase mostly because a friend(s) had made the same or a similar purchase and had recommended it to me.

90. Yes No

(26) ☐ ☐ I observed another person(s) using this purchase

(27) ☐ ☐ I tried out the purchase

(28) ☐ ☐ I studied the purchase

to make sure it would give me what I wanted.

91. Yes No

(29) ☐ ☐ I acted on impulse and made this purchase very quickly without thinking much about it.

92. Yes No

(30) ☐ ☐ Before I made the purchase I found out under what conditions my money would or would not be refunded if I were dissatisfied with it.

93. Yes No

(31) ☐ ☐ My decision was based mostly on how I was able to imagine myself with the purchase.

94. Yes No

(32) ☐ ☐ Once I knew about it I purchased it immediately.

95. Yes No

(33) ☐ ☐ I made this purchase based mostly on what I heard another person say about it.

96. Yes No

(34) ☐ ☐ I just believed that if this purchase would work out to be satisfying it just would and there was really nothing I could do about it.

97. Yes No

(35) ☐ ☐ I thought about
(36) ☐ ☐ I wrote a list of
(37) ☐ ☐ I described to someone

what future benefits I might be getting by making this purchase at that time.

V. Decision Situation: Choosing a class.

What was the name of an elective class that you decided to take and have since completed?

____

When did you take that class?

(38-39) Year 19__

(40) Quarter ☐ Aut ☐ Win ☐ Spr ☐ Sum

(41) Semester ☐ Fall ☐ Spr ☐ Sum

At the time a choice had to be made how important was this decision to you? (Circle a number)

(42-43) 0 1 2 3 4 5 6 7 8 9 10

not important at all	moderately important	very important

After the decision was made but before you attended the first class meeting, how confident were you that the decision was a good one? (Circle a number)

(44-45) 0 1 2 3 4 5 6 7 8 9 10

not confident at all	moderately confident	very confident

Immediately after you completed the course, how satisfied were you with the decision to take it? (Circle a number)

(46-47) 0 1 2 3 4 5 6 7 8 9 10

not satisfied at all	moderately satisfied	very satisfied

Right now, looking back at the course, how satisfied are you with the decision to take it? (Circle a number)

(48-49) 0 1 2 3 4 5 6 7 8 9 10

not satisfied at all	moderately satisfied	very satisfied

Mark an X in the appropriate boxes to indicate which of the following items describe your actions, statements or thoughts before choosing this class.

98. Yes No

(50) ☐ ☐ I made my decision based mostly on an instinctive understanding I had about the class in which I was able to imagine what it would be like.

99. Yes No

(51) ☐ ☐ I asked other people who had taken this course for their opinions of it. If you marked "yes", how many people did you ask?

(52)
☐ One
☐ Two
☐ Three
☐ More than three

100. Yes No

(53) ☐ ☐ I thought about

(54) ☐ ☐ I described to another person(s)

(55) ☐ ☐ I wrote a list of

the important benefits that I wanted to get from a class.

101. Yes No

(56) ☐ ☐ Ending up with a good class seemed to be so much a matter of luck that I just decided to take this class and hope for the best because I really couldn't do anything else about it.

102. Yes No

(57) ☐ ☐ Without thinking much about it I made a fast decision and took an elective that was available.

103. Yes No

(58) ☐ ☐ I studied the course catalog for classes that would give me what I wanted.

104. Yes No

(59) ☐ ☐ I listed some other alternative classes in case my first choice did not work out. If you marked "yes", how many alternative classes did you list?

(60)
☐ One
☐ Two
☐ Three
☐ More than three

105. Yes No

(61) ☐ ☐ I thought

(62) ☐ ☐ I said to another person

that I must spend some time getting information about the classes that were going to be offered.

106. Yes No

(63) ☐ ☐ I decided to take this class over other possible classes because by comparison it seemed like it would give me the benefits that were most important to me.

107. Yes No

(64) ☐ ☐ I compared different sources of information before I made my decision. If you marked "yes", what sources of information did you use?

(65) ☐ Student opinion
(66) ☐ Direct personal experience
(67) ☐ Course catalog information
(68) ☐ Direct observation of people using skills acquired in the class
(69) ☐ Teacher opinion
(70) ☐ Opinion of husband or wife
(71) ☐ Counselor opinion
(72) ☐ Opinion of friends

(Contd. on next page)

(73) ☐ I talked with the course instructor

(74) ☐ I obtained the course outline or syllabus

(75) ☐ I looked at the textbook for the course

(76) ☐ Other

108. Yes No

(77) ☐ ☐ I thought about

(78) ☐ ☐ I discussed with someone

(79) ☐ ☐ I wrote a list of

the way(s) in which that class might fit in with my future plans.

(1-4) ☐☐☐ 5

109. Yes No

(5) ☐ ☐ I compared two or more classes to find one that would satisfy my interests.

110. Yes No

(6) ☐ ☐ I talked with another person(s) who was/were thinking of taking this course so that we could compare our reasons for taking the course.

111. Yes No

(7) ☐ ☐ I found out how much work was required for the class(es) that I was considering.

112. Yes No

(8) ☐ ☐ I quickly chose an available elective that fit my time schedule.

113. Yes No

(9) ☐ ☐ I chose this class based mostly on some vivid impressions and images of how the class would be.

114. Yes No

(10) ☐ ☐ I spent some time thinking about how well I would do in this class by comparing the required work with estimations of my own abilities.

115. Yes No

(11) ☐ ☐ This class was available, so based mostly on an impulse I quickly chose it.

116. Yes No

(12) ☐ ☐ I decided to take the class based mostly on what I heard another person(s) say about it.

117. Yes No

(13) ☐ ☐ I chose this class based mostly on a strong gut feeling that it would be a good one.

118. Yes No

(14) ☐ ☐ I chose this class based mostly on a belief that all I could do was to hope it turned out good because there really wasn't anything that I could do about it.

119. Yes No

(15) ☐ ☐ I chose this class because it helped me to meet a goal that I had set for myself.

120. Yes No

(16) ☐ ☐ I thought

(17) ☐ ☐ I said to someone

that I needed to spend some time planning my course sechedule for the next quarter/semester.

121. Yes No

(18) ☐ ☐ I thought

(19) ☐ ☐ I said to someone

that I had to make a decision about which class(es) to take.

122. Yes No

(20) ☐ ☐ I asked another person what she/he would take and I took the class she/he described.

123. Yes No

(21) ☐ ☐ I thought about

(22) ☐ ☐ I wrote

(23) ☐ ☐ I described to someone

a plan of courses that I wanted to take in colleges and my plan helped guide my choice of an elective.

124. Yes No

(24) ☐ ☐ I thought

(25) ☐ ☐ I said to someone

that I needed to spend some time thinking about the kind of class that might give me what I want.

125. Yes No

(26) ☐ ☐ My friend(s) decided to take the class and talked me into taking it with him/her/them.

126. Yes No

(27) ☐ ☐ I took a chance and chose this class based mostly on the belief that I couldn't really tell whether one class would be better than another without having taken them first.

DMQ Rating Scales and Items in each Decision Situation

Item Number	Mean	S.D.	Frequencies	Yes	No
Deciding on a Job					
006	7.71	2.43		-	-
007	7.73	2.38		-	-
008	7.15	2.72		-	-
009	7.39	2.83		-	-
010	-	-		82	168
011	-	-		178	61
012	-	-		124	-
013	-	-		44	-
014	-	-		50	-
015	-	-		18	-
016	-	-		28	-
017	-	-		17	-
018	-	-		34	-
019	-	-		72	-
020	-	-		4	-
021	-	-		24	-
022	-	-		14	-
023	-	-		29	-
024	-	-		53	-
025	-	-		26	-
026	-	-		124	127
027	-	-		189	63
028	-	-		19	220
029	-	-		108	121
031	-	-		127	119
032	-	-		63	166
033	-	-		122	131
034	-	-		144	108
035	-	-		109	142
036	-	-		180	166

DMQ Rating Scales and Items in Each Decision Situation (Contd.)

Item Number	Mean	S.D.	Frequencies Yes	No
037	-	-	8	210
038	-	-	104	131
039	-	-	115	138
040	-	-	43	210
041	-	-	214	29
042	-	-	143	91
043	-	-	48	204
044	-	-	152	101
045	-	-	158	89
046	-	-	84	151
047	-	-	214	34
048	-	-	11	211
049	-	-	112	121
050	-	-	72	180
051	-	-	94	159
052	-	-	113	136
054	-	-	129	123
055	-	-	153	95
056	-	-	143	102
057	-	-	90	149
058	-	-	22	228
059	-	-	116	132
060	-	-	70	153
061	-	-	198	44
062	-	-	9	203
063	-	-	185	60
064	-	-	7	211
065	-	-	86	145
Deciding on Which Movie to See				
067	5.79	2.96		
068	7.48	2.65		

DMQ Rating Scales and Items in each Decision Situation (Contd.)

Item Number	Mean	S.D.	Frequencies	Yes	No
069	7.91	2.89		-	-
070	7.90	2.96			
071				121	134
072	-	-		101	151
074	-	-		91	162
075	-	-		155	100
076	-	-		186	66
077	-	-		82	-
079	-	-		141	-
081	-	-		84	-
082	-	-		84	-
083	-	-		23	-
084	-	-		94	159
085	-	-		125	130
086	-	-		66	188
087	-	-		98	185
088	-	-		143	111
089	-	-		35	219
090	-	-		73	181
091	-	-		66	188
092	-	-		43	211
093	-	-		44	210
094	-	-		125	90
095	-	-		118	121
096	-	-		93	145
097	-	-		52	202
098	-	-		125	129
099	-	-		148	105
100	-	-		92	162
Deciding on Which College to Attend					
104	8.12	2.23		-	-
105	7.89	2.19		-	-

DMQ Rating Scales and Items in each Decision Situation (Contd.)

Item Number	Mean	S.D.	Frequencies	
			Yes	No
106	8.27	2.23	-	-
107	8.34	2.13	-	-
108	-	-	50	202
109	-	-	17	235
110	-	-	125	128
112	-	-	181	70
114	-	-	82	171
115	-	-	40	212
116	-	-	112	140
117	-	-	144	133
118	-	-	49	-
119	-	-	28	-
120	-	-	8	-
121	-	-	58	-
122	-	-	32	-
123	-	-	78	-
124	-	-	29	-
125	-	-	3	-
126	-	-	3	-
127	-	-	15	-
128	-	-	103	120
129	-	-	144	80
130	-	-	235	14
131	-	-	166	68
132	-	-	137	88
133	-	-	75	138
134	-	-	66	149
135	-	-	85	134
136	-	-	200	44
137	-	-	65	70
138	-	-	42	205
139	-	-	215	29
140	-	-	179	54

DMQ Rating Scales and Items in each Decision Situation (Contd.)

Item Number	Mean	S.D.	Frequencies	Yes	No
141	-	-		27	181
142	-	-		73	181
143	-	-		91	160
144	-	-		31	208
145	-	-		26	228
146	-	-		39	213
147	-	-		179	69
148	-	-		97	137
149	-	-		190	61
150	-	-		45	204
151	-	-		155	93
152	-	-		90	157
153	-	-		72	-
154	-	-		41	-
155	-	-		53	-
156	-	-		24	-
157	-	-		24	-
158	-	-		37	-
159	-	-		75	-
160	-	-		40	-
161	-	-		15	-
162	-	-		95	153
163	-	-		172	81
164	-	-		226	23
165	-	-		137	95
166	-	-		29	186
167	-	-		88	164
168	-	-		175	79
Deciding to Buy Something Expensive					
170	8.68	1.81		-	-

DMQ Rating Scales and Items in each Decision Situation (Contd.)

Item Number	Mean	S.D.	Frequencies	Yes	No
171	8.19	2.12		-	-
172	8.62	2.05		-	-
173	8.78	2.19		-	-
174	-	-		229	25
175	-	-		181	70
176	-	-		19	201
177	-	-		107	130
178	-	-		167	88
179	-	-		218	36
180	-	-		133	122
182	-	-		221	29
183	-	-		13	200
184	-	-		154	83
185	-	-		58	197
186	-	-		48	206
187	-	-		220	28
188	-	-		17	200
189	-	-		154	86
190	-	-		30	224
191	-	-		210	38
192	-	-		6	207
193	-	-		126	110
194	-	-		191	62
195	-	-		179	72
196	-	-		17	209
197	-	-		98	142
198	-	-		193	60
199	-	-		94	50
200	-	-		45	85
201	-	-		55	79
202	-	-		74	64
203	-	-		112	45

DMQ Rating Scales and Items in each Decision Situation (Contd.)

Item Number	Mean	S.D.	Frequencies	Yes	No
204	-	-		47	78
205	-	-		75	64
206	-	-		95	50
207	-	-		103	45
208	-	-		125	30
211	-	-		47	205
212	-	-		185	65
213	-	-		28	194
214	-	-		103	131
215	-	-		27	228
216	-	-		94	135
217	-	-		142	90
218	-	-		191	52
219	-	-		27	227
220	-	-		156	99
221	-	-		128	126
222	-	-		85	169
223	-	-		42	212
224	-	-		52	20
225	-	-		222	28
226	-	-		12	205
227	-	-		140	98
Choosing a Class					
231	7.15	2.36		-	-
232	7.15	2.36		-	-
233	8.32	2.24		-	-
234	8.52	2.10		-	-
235	-	-		159	88
236	-	-		119	130
238	-	-		217	30

DMQ Rating Scales and Items in each Decision Situation (Contd.)

Item Number	Mean	S.D.	Frequencies	Yes	No
239	-	-		93	135
240	-	-		21	201
241	-	-		34	214
242	-	-		16	233
243	-	-		174	74
244	-	-		125	123
246	-	-		110	138
247	-	-		49	177
248	-	-		209	41
249	-	-		168	81
250	-	-		86	-
251	-	-		53	-
252	-	-		95	-
253	-	-		52	-
254	-	-		40	-
255	-	-		12	-
256	-	-		42	-
257	-	-		82	-
258	-	-		56	-
259	-	-		17	-
260	-	-		18	-
261	-	-		20	-
262	-	-		207	41
263	-	-		107	120
264	-	-		14	201
265	-	-		139	111
266	-	-		95	155
267	-	-		104	146
268	-	-		56	194
269	-	-		150	99
270	-	-		147	102
271	-	-		32	217

DMQ Rating Scales and Items in each Decision Situation (Contd.)

Item Number	Mean	S.D.	Frequencies	Yes	No
272	-	-		70	179
273	-	-		141	108
274	-	-		35	213
275	-	-		184	64
276	-	-		143	101
277	-	-		75	158
278	-	-		191	56
279	-	-		98	132
280	-	-		29	225
281	-	-		152	90
282	-	-		36	181
283	-	-		88	145
284	-	-		180	63
285	-	-		84	148
286	-	-		25	224
287	-	-		48	200

Appendix A_1

Factor Analysis of Individual Item Scores in the Job, Movie, College, Purchase, and Elective Class Decision Situations

```
STATISTICAL PACKAGE FOR THE SOCIAL SCIENCES                              08/09/78       PAGE    1

SPSS FOR OS/360, VERSION H, RELEASE 7.2       DECEMBER 5, 1977

DEFAULT SPACE ALLOCATION..     ALLOWS FOR..   125 TRANSFORMATIONS
WORKSPACE     87500 BYTES                     500 RECODE VALUES + LAG VARIABLES
TRANSPACE     12500 BYTES                    2000 IF/COMPUTE OPERATIONS

                    RUN NAME          FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS
                    GET FILE          BREAKDOW


                          FILE BREAKDOW HAS 369 VARIABLES

                          THE SUBFILES ARE..

                                     NO OF
                          NAME       CASES

                          BREAKDOW     255


CPU TIME REQUIRED..    0.23 SECONDS


                    FACTOR            VARIABLES=DEFPR1,ESTAP1,CLVL1A,CLVL1B,CLVL1C,
                                      CLVL1D,DMQ011,IDALT1,DMQ052,DMQ010,DMQ035,
                                      DPOUT1,ELALT1,DMQ055,DMQ044,DMQ054,DMQ059,
                                      DMQ026,DMQ034,DMQ043,DMQ033,DMQ039,DMQ051,
                                      DMQ040,DMQ050,
                                      DMQ058/
                                      NFACTORS=11
                    STATISTICS        1,2,4,5,6

 ***** FACTOR PROBLEM REQUIRES  12232 BYTES WORKSPACE *****
```

```
  1.VARIABLE LIST

VARIABLES..        LABELS..

DEFPR1
ESTAP1
CLVL1A
CLVL1B
CLVL1C
CLVL1D
DMQ011             RAT IDEN ALT DEC SITN 1 JOB
IDALT1
DMQ052             RAT IDEN ALT DEC SITN 1 JOB
DMQ010             RAT DISC P OUT DEC SITN 1 JOB
DMQ035             RAT DISC P OUT DEC SITN 1 JOB
DPOUT1
ELALT1
DMQ055             RAT ELM ALT DEC SITN 1 JOB
DMQ044             INT DEC SITN 1 JOB
DMQ054             INT DEC SITN 1 JOB
DMQ059             INT DEC SITN 1 JOB
DMQ026             FAT DEC SITN 1 JOB
DMQ034             FAT DEC SITN 1 JOB
DMQ043             FAT DEC SITN 1 JOB
DMQ033             IMP DEC SITN 1 JOB
DMQ039             IMP DEC SITN 1 JOB
DMQ051             IMP DEC SITN 1 JOB
DMQ040             DEP DEC SITN 1 JOB
DMQ050             DEP DEC SITN 1 JOB
DMQ058             DEP DEC SITN 1 JOB
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                           08/09/78       PAGE    3

FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX


VARIABLE               MEAN     STANDARD DEV      CASES

DEFPR1               1.5179           0.4310        224
ESTAP1               1.5915           0.4039        224
CLVL1A               1.5907           0.2710        224
CLVL1B               1.2589           0.3313        224
CLVL1C               1.6424           0.2527        224
CLVL1D               1.6160           0.2682        224
DMQ011               1.2634           0.4415        224
IDALT1               1.5640           0.2839        224
DMQ052               1.5536           0.4982        224
DMQ010               1.6696           0.4714        224
DMQ035               1.5714           0.4960        224
DPOUT1               1.4315           0.2368        224
ELALT1               1.4821           0.4069        224
DMQ055               1.4018           0.4914        224
DMQ044               1.3973           0.4904        224
DMQ054               1.5000           0.5011        224
DMQ059               1.5402           0.4995        224
DMQ026               1.5089           0.5010        224
DMQ034               1.4420           0.4977        224
DMQ043               1.8125           0.3912        224
DMQ033               1.5089           0.5010        224
DMQ03[illegible]               1.5446           0.4991        224
DMQ051               1.6161           0.4874        224
DMQ040               1.8259           0.3801        224
DMQ050               1.7098           0.4549        224
DMQ058               1.9107           0.2858        224
```

```
CORRELATION COEFFICIENTS..


              DEFPR1      ESTAP1      CLVL1A      CLVL1B      CLVL1C      CLVL1D      DMQ011      IDALT1      DMQ052      DMQ010

DEFPR1       1.00000     0.17734     0.17781     0.28933     0.20560     0.27606     0.17549     0.26531     0.39228     0.23884
ESTAP1       0.17734     1.00000     0.42542     0.10697     0.30214     0.38776     0.07798     0.34936     0.15938     0.27729
CLVL1A       0.17781     0.42542     1.00000     0.28620     0.36772     0.39627     0.14279     0.55262     0.16853     0.17726
CLVL1B       0.28933     0.10697     0.28620     1.00000     0.28310     0.26564     0.09882     0.32344     0.22799     0.13382
CLVL1C       0.20560     0.30214     0.36772     0.28310     1.00000     0.54139     0.18750     0.24195     0.10352     0.18086
CLVL1D       0.27606     0.38776     0.39627     0.26564     0.54139     1.00000     0.15093     0.20987     0.15460     0.19827
DMQ011       0.17549     0.07798     0.14279     0.09882     0.18750     0.15093     1.00000     0.10938     0.17002     0.16142
IDALT1       0.26531     0.34936     0.55262     0.32344     0.24195     0.20987     0.10938     1.00000     0.28737     0.20332
DMQ052       0.39228     0.15938     0.16853     0.22799     0.10352     0.15460     0.17002     0.28737     1.00000     0.11388
DMQ010       0.23884     0.27729     0.17726     0.13382     0.18086     0.19827     0.16142     0.20332     0.11388     1.00000
DMQ035      -0.07941     0.06237     0.12386     0.11889     0.22313     0.13403     0.14922     0.08943    -0.03370     0.17810
DPOUT1       0.03487     0.06137     0.19448     0.04559     0.12188     0.07876     0.03728     0.13600     0.05633     0.06405
ELALT1       0.22553     0.21463     0.31273     0.18411     0.10531     0.17302     0.11367     0.30085     0.21485     0.10937
DMQ055      -0.04461     0.03985     0.08406     0.03296     0.11494     0.19463     0.10946     0.03987    -0.07000     0.01418
DMQ044      -0.09735     0.00804     0.08160    -0.01502     0.03222     0.04551    -0.02986     0.04736    -0.11502    -0.05039
DMQ054       0.02076     0.00554     0.08248     0.04051     0.11505     0.10563     0.09122     0.06825     0.0         0.01898
DMQ059       0.05914     0.04282     0.20476     0.11298     0.05447     0.12681     0.00264     0.03446     0.00033    -0.05764
DMQ026       0.09270     0.06797     0.06546    -0.00048     0.02350     0.04227     0.01973     0.14828     0.08790     0.05052
DMQ034      -0.02650    -0.12403    -0.22681    -0.01723    -0.07844    -0.06130    -0.06277    -0.19579     0.14822     0.08993
DMQ043      -0.12633     0.00976    -0.16308    -0.21191    -0.08559    -0.13355    -0.18014    -0.14724    -0.20132     0.02736
DMQ033      -0.03189    -0.12039    -0.13265    -0.05450    -0.24809    -0.29140    -0.14245    -0.12492     0.01604    -0.02542
DMQ039       0.03797    -0.20388    -0.06884    -0.07021    -0.09517    -0.04446    -0.00272    -0.08885     0.08050     0.06297
DMQ051       0.02211    -0.02573    -0.13111    -0.02032    -0.08571    -0.07493    -0.11145    -0.11338    -0.02572    -0.04708
DMQ040       0.00538     0.03124     0.00168    -0.03211     0.05383     0.01585     0.03401    -0.00334    -0.10445     0.05297
DMQ050      -0.13356    -0.02566     0.02663    -0.03190     0.03599     0.02617     0.04736    -0.08129    -0.05971     0.01102
DMQ058      -0.02340     0.03227    -0.03004    -0.10993     0.03190    -0.05914     0.08061    -0.03983    -0.09222     0.04637


              DMQ035      DPOUT1      ELALT1      DMQ055      DMQ044      DMQ054      DMQ059      DMQ026      DMQ034      DMQ043

DEFPR1      -0.07941     0.03487     0.22553    -0.04461    -0.09735     0.02076     0.05914     0.09270    -0.02650    -0.12633
ESTAP1       0.06237     0.06137     0.21463     0.03985     0.00804     0.00554     0.04282     0.06797    -0.12403     0.00976
CLVL1A       0.12386     0.19448     0.31273     0.08406     0.08160     0.08248     0.20476     0.06546    -0.22681    -0.16308
CLVL1B       0.11889     0.04559     0.18411     0.03296    -0.01502     0.04051     0.11298    -0.00048    -0.01723    -0.21191
CLVL1C       0.22313     0.12188     0.10531     0.11494     0.03222     0.11505     0.05447     0.02350    -0.07844    -0.08559
CLVL1D       0.13403     0.07876     0.17302     0.19463     0.04551     0.10563     0.12681     0.04227    -0.06130    -0.13355
DMQ011       0.14922     0.03728     0.11367     0.10946    -0.02986     0.09122     0.00264     0.01973    -0.06277    -0.18014
IDALT1       0.08943     0.13600     0.30085     0.03987     0.04736     0.06825     0.03446     0.14828    -0.19579    -0.14724
DMQ052      -0.03370     0.05633     0.21485    -0.07000    -0.11502     0.0         0.00033     0.08790     0.14822    -0.20132
DMQ010       0.17810     0.06405     0.10937     0.01418    -0.05039     0.01898    -0.05764     0.05052     0.08993     0.02736
DMQ035       1.00000     0.10522     0.09522     0.19452     0.09481     0.14434     0.14222     0.01547     0.02598    -0.11556
```

	DMQ035	DPOUT1	ELALT1	DMQ055	DMQ044	DMQ054	DMQ059	DMQ026	DMQ034	DMQ043
DPOUT1	0.10522	1.00000	0.15748	0.09596	0.09993	0.08799	0.08001	0.13097	-0.09113	-0.07511
ELALT1	0.09522	0.15748	1.00000	0.22667	0.17052	0.25288	0.15798	0.11076	-0.09369	-0.14789
DMQ055	0.19452	0.09596	0.22667	1.00000	0.22779	0.34603	0.26281	0.00358	-0.08758	-0.14290
DMQ044	0.09481	0.09993	0.17052	0.22779	1.00000	0.31931	0.18167	0.17712	-0.02452	-0.03068
DMQ054	0.14434	0.08799	0.25288	0.34603	0.31931	1.00000	0.45683	-0.07144	-0.00899	-0.09150
DMQ059	0.14222	0.08001	0.15798	0.26281	0.18167	0.45683	1.00000	0.15086	0.04550	-0.03012
DMQ026	0.01547	0.13097	0.11076	0.00358	0.17712	-0.07144	0.15086	1.00000	0.20888	0.19161
DMQ034	0.02595	-0.09113	-0.09369	-0.08758	-0.02452	-0.00899	0.04550	0.20888	1.00000	0.15114
DMQ043	-0.11556	-0.07511	-0.14789	-0.14290	-0.03068	-0.09150	-0.03012	0.19161	0.15114	1.00000
DMQ033	-0.07476	-0.13366	-0.14217	-0.25143	-0.15136	-0.16074	-0.06415	0.07113	0.35273	0.23737
DMQ039	0.05952	-0.05015	-0.05125	-0.07347	-0.00867	-0.05379	0.07372	0.17772	0.34442	0.15790
DMQ051	-0.10864	-0.08656	-0.07993	-0.06453	0.00318	-0.07343	0.11890	0.21608	0.20349	0.11465
DMQ040	0.26849	0.05756	-0.04918	0.11214	0.10816	0.05886	0.09607	0.16128	0.14785	0.17155
DMQ050	0.18174	0.02954	-0.14925	0.04246	0.11711	-0.00984	0.00221	0.08029	0.15306	0.09608
DMQ058	0.01356	0.01908	-0.11016	-0.03079	-0.06570	-0.06262	-0.10040	0.03691	0.12103	0.25069

	DMQ033	DMQ039	DMQ051	DMQ040	DMQ050	DMQ058
DEFPR1	-0.03189	0.03797	0.02211	0.00538	-0.13356	-0.02340
ESTAP1	-0.12039	-0.20388	-0.02573	0.03124	-0.02566	0.03227
CLVL1A	-0.13265	-0.06884	-0.13111	0.00168	0.02663	-0.03004
CLVL1B	-0.05450	-0.07021	-0.02032	-0.03211	-0.03480	-0.10993
CLVL1C	-0.24809	-0.09517	-0.08571	0.05383	0.03599	0.03190
CLVL1D	-0.29140	-0.04446	-0.07493	0.01585	0.02617	-0.05914
DMQ011	-0.14245	-0.00272	-0.11145	0.03401	0.04736	0.08061
IDALT1	-0.12492	-0.08885	-0.11338	-0.08334	-0.08129	-0.03983
DMQ052	0.01604	0.08050	-0.02572	-0.10445	-0.05971	-0.09222
DMQ010	-0.02542	0.06297	-0.04705	0.05297	0.01102	0.04637
DMQ035	-0.07476	0.05952	-0.10864	0.26849	0.18174	0.01356
DPOUT1	-0.13366	-0.05015	-0.08656	0.05756	0.02954	0.01908
ELALT1	-0.14217	-0.05125	-0.07993	-0.04918	-0.14925	-0.11016
DMQ055	-0.25143	-0.07347	-0.06453	0.11214	0.04246	-0.03079
DMQ044	-0.15136	-0.00867	0.00318	0.10816	0.11711	-0.06570
DMQ054	-0.16074	-0.05379	-0.07343	0.05886	-0.00984	-0.06262
DMQ059	-0.06415	0.07372	0.11890	0.09607	0.00221	-0.10040
DMQ026	0.07113	0.17772	0.21608	0.16128	0.08029	0.03691
DMQ034	0.35273	0.34442	0.20349	0.14785	0.15306	0.12103
DMQ043	0.23737	0.15790	0.11465	0.17155	0.09608	0.25069
DMQ033	1.00000	0.24944	0.41806	0.01998	0.08029	0.16218
DMQ039	0.24944	1.00000	0.27352	0.12390	0.04744	0.05951
DMQ051	0.41806	0.27352	1.00000	0.02486	0.02113	0.04254
DMQ040	0.01998	0.12390	0.02486	1.00000	0.40682	0.26910
DMQ050	0.08029	0.04744	0.02113	0.40682	1.00000	0.35173

```
                 DMQ033      DMQ039      DMQ051      DMQ040      DMQ050      DMQ058

DMQ058           0.16218     0.05951     0.04254     0.26910     0.35173     1.00000

DETERMINANT OF CORRELATION MATRIX =  0.0038523( 0.38522687D-02)
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                          08/09/78       PAGE    8

FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX

FACTOR MATRIX USING PRINCIPAL FACTOR WITH ITERATIONS


           FACTOR  1  FACTOR  2  FACTOR  3  FACTOR  4  FACTOR  5  FACTOR  6  FACTOR  7  FACTOR  8  FACTOR  9  FACTOR 10

DEFPR1      0.41125    0.12608   -0.40802    0.17212   -0.18617   -0.01326    0.26770    0.05614    0.21355    0.23880
ESTAP1      0.52519    0.12778   -0.20082   -0.24234    0.34799   -0.16238    0.01685    0.19496   -0.15525   -0.09862
CLVL1A      0.67614    0.10362   -0.09694   -0.09101    0.24179    0.15781   -0.23643    0.05011    0.03976   -0.09891
CLVL1B      0.41656    0.05440   -0.17063    0.08868   -0.15807    0.02113   -0.15474   -0.01254    0.07035    0.00805
CLVL1C      0.54588    0.13656   -0.00598   -0.21023   -0.08325   -0.27193   -0.05295   -0.07257    0.02316    0.02398
CLVL1D      0.62631    0.14149   -0.03661   -0.13510   -0.06719   -0.46180   -0.00306   -0.14710    0.07155   -0.09495
DMQ011      0.27872    0.05326   -0.00060   -0.06514   -0.23097    0.06419    0.07223    0.02204    0.03486    0.09803
IDALT1      0.58626    0.03824   -0.23820    0.01376    0.18119    0.31128   -0.07392    0.04054   -0.03497   -0.02114
DMQ052      0.31653    0.09989   -0.39579    0.21314   -0.24804    0.14840    0.11846    0.04068    0.03808   -0.15253
DMQ010      0.28410    0.21023   -0.16461   -0.11429   -0.09154   -0.02124    0.08839    0.10416   -0.22576    0.12165
DMQ035      0.25645    0.25484    0.33024   -0.14718   -0.26935    0.10940   -0.26456   -0.05920   -0.33447    0.20731
DPOUT1      0.23413    0.05337    0.09146   -0.00119    0.05287    0.15433    0.06173   -0.10047    0.01820    0.04191
ELALT1      0.45662    0.01672    0.02994    0.25522    0.08657    0.15881    0.08912    0.03478   -0.06780    0.01908
DMQ055      0.27843    0.02476    0.43962    0.11736   -0.01969   -0.05531    0.02168   -0.02632    0.01619    0.03856
DMQ044      0.13979    0.10368    0.39498    0.15974    0.17146    0.07219    0.03917   -0.12372    0.02904   -0.09181
DMQ054      0.30769    0.05837    0.56104    0.40976   -0.01572   -0.06989    0.12266    0.36406    0.02318   -0.02109
DMQ059      0.22989    0.20339    0.32724    0.37483    0.10286   -0.07632   -0.06637    0.04682    0.06049    0.01403
DMQ026      0.05116    0.45909   -0.06616    0.16925    0.26381    0.14512    0.18084   -0.40354   -0.03076   -0.00681
DMQ034     -0.28667    0.53484   -0.11225    0.20618   -0.27563   -0.09646    0.07664    0.01989   -0.21312   -0.32003
DMQ043     -0.34688    0.32417   -0.02290   -0.16898    0.36568   -0.11923    0.26135    0.09673   -0.13348    0.10612
DMQ033     -0.43447    0.36042   -0.30708    0.14940    0.05196    0.06158   -0.24893    0.24959   -0.01026    0.02232
DMQ039     -0.19976    0.38582   -0.09644    0.20022   -0.11121   -0.01072   -0.02627   -0.08729   -0.07797    0.06385
DMQ051     -0.26061    0.38140   -0.18414    0.31977    0.19122   -0.21361   -0.29845   -0.04225    0.19453    0.16069
DMQ040     -0.02362    0.46172    0.27745   -0.23339   -0.06210    0.08621    0.07235   -0.01842    0.06397    0.10543
DMQ050     -0.08754    0.45445    0.26753   -0.39210   -0.12320    0.16733   -0.06557    0.02698    0.28692   -0.17894
DMQ058     -0.14338    0.34188    0.03304   -0.34880    0.01046    0.08078    0.11395    0.19731    0.15848    0.05215


           FACTOR 11

DEFPR1     -0.01040
ESTAP1     -0.32043
CLVL1A      0.18832
CLVL1B      0.12078
CLVL1C      0.13953
CLVL1D      0.06485
DMQ011     -0.07847
IDALT1      0.09381
DMQ052     -0.07318
DMQ010     -0.05434
DMQ035     -0.03895
```

```
               FACTOR 11

DPOUT1          0.01211
ELALT1         -0.07970
DMQ055         -0.11647
DMQ044         -0.05280
DMQ054          0.06349
DMQ059          0.07964
DMQ026         -0.04012
DMQ034          0.01465
DMQ043          0.23760
DMQ033          0.02918
DMQ039          0.11102
DMQ051         -0.18515
DMQ040         -0.04389
DMQ050         -0.05925
DMQ058          0.01272


VARIABLE        COMMUNALITY                 FACTOR       EIGENVALUE   PCT OF VAR    CUM PCT

DEFPR1            0.59351                      1           3.47237       28.7         28.7
ESTAP1            0.71347                      2           1.83001       15.1         43.8
CLVL1A            0.67418                      3           1.68129       13.9         57.7
CLVL1B            0.28260                      4           1.25863       10.4         68.0
CLVL1C            0.47039                      5           0.88026        7.3         75.3
CLVL1D            0.68964                      6           0.67866        5.6         80.9
DMQ011            0.16492                      7           0.57146        4.7         85.6
IDALT1            0.54940                      8           0.53521        4.4         90.1
DMQ052            0.44155                      9           0.47859        4.0         94.0
DMQ010            0.26128                     10           0.37995        3.1         97.1
DMQ035            0.57580                     11           0.34585        2.9        100.0
DPOUT1            0.10878
ELALT1            0.32800
DMQ055            0.30510
DMQ044            0.27532
DMQ054            0.73848
DMQ059            0.37500
DMQ026            0.53520
DMQ034            0.66294
DMQ043            0.56562
DMQ033            0.56749
DMQ039            0.28142
DMQ051            0.62054
DMQ040            0.37918
DMQ050            0.60556
DMQ058            0.34674
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                    08/09/78        PAGE   10

FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX

    VARIMAX ROTATED FACTOR MATRIX



                FACTOR  1   FACTOR  2   FACTOR  3   FACTOR  4   FACTOR  5   FACTOR  6   FACTOR  7   FACTOR  8   FACTOR  9   FACTOR 10

DEFPR1           0.14084    -0.02084    -0.06611     0.72005     0.17928     0.08061     0.05986    -0.08325    -0.02194     0.01637
ESTAP1           0.27917     0.00501     0.02014     0.09523     0.27049     0.00352     0.03472     0.01083    -0.10009     0.73405
CLVL1A           0.72369     0.11552     0.02732     0.05399     0.29547    -0.03170     0.04445     0.04542    -0.12006     0.15947
CLVL1B           0.33404     0.03049    -0.07711     0.25121     0.24896     0.04139    -0.04653     0.07901     0.03551    -0.06318
CLVL1C           0.20815     0.06586     0.06304     0.14463     0.59818    -0.08126    -0.01783     0.14869    -0.05862     0.08650
CLVL1D           0.13578     0.12209    -0.01168     0.16101     0.76850    -0.05644     0.03941     0.02110    -0.00266     0.17392
DMQ011           0.04990     0.04523     0.09598     0.29222     0.10521    -0.11317    -0.01370     0.15732    -0.04272     0.03074
IDALT1           0.65186     0.02188    -0.07992     0.23127     0.06868    -0.07909     0.12216     0.04490    -0.08918     0.16499
DMQ052           0.23917    -0.06559    -0.09686     0.48173     0.02619    -0.03182     0.04721    -0.09308     0.26940     0.08057
DMQ010           0.11527    -0.05395     0.03043     0.27707     0.13461    -0.04278     0.00435     0.25449     0.10001     0.24012
DMQ035           0.09018     0.16693     0.16108    -0.03214     0.11187    -0.05463     0.01092     0.69721     0.04480    -0.00233
DPOUT1           0.16031     0.12396     0.04981     0.08014     0.03114    -0.10302     0.18161     0.07000    -0.09405    -0.00238
ELALT1           0.28209     0.31347    -0.15965     0.24662    -0.00730    -0.07829     0.15112     0.05440    -0.03967     0.15864
DMQ055          -0.04931     0.46939     0.03887    -0.00817     0.11832    -0.09246     0.06805     0.14628    -0.12162     0.04239
DMQ044           0.03879     0.42005     0.06614    -0.15136    -0.00421    -0.05462     0.24875     0.00395    -0.03788     0.00917
DMQ054           0.03307     0.82507    -0.01251     0.08911    -0.00362    -0.09360    -0.18839     0.01595     0.04017     0.00232
DMQ059           0.11603     0.55782    -0.03234    -0.00570     0.09808     0.16077     0.07145     0.02824     0.05513    -0.06714
DMQ026           0.09872     0.06368     0.07694     0.05616     0.00510     0.15656     0.66507    -0.01505     0.17063     0.02687
DMQ034          -0.16723    -0.00796     0.13369     0.03041    -0.02649     0.14749     0.07120     0.02533     0.76564    -0.00713
DMQ043          -0.11182    -0.09031     0.18556    -0.16129    -0.06062     0.09243     0.11921    -0.08503     0.10909     0.05675
DMQ033           0.05237    -0.19799     0.11243    -0.03653    -0.29091     0.51883    -0.13655    -0.02969     0.33495    -0.02628
DMQ039          -0.05610    -0.01665     0.04762     0.07042    -0.03514     0.26533     0.14064     0.11097     0.34481    -0.17783
DMQ051          -0.10268     0.01910     0.00996    -0.02336    -0.01679     0.75982     0.12321    -0.07664     0.10017     0.01531
DMQ040          -0.07632     0.12493     0.51160     0.01312     0.03765     0.02732     0.15885     0.22220     0.04529    -0.00965
DMQ050           0.01253     0.02061     0.74968    -0.11856     0.04367    -0.00101     0.04472     0.03731     0.09553    -0.03551
DMQ058          -0.02794    -0.09604     0.52888     0.04786    -0.04340     0.03293    -0.04831    -0.00558     0.01509     0.05472



                FACTOR 11

DEFPR1           0.02223
ESTAP1           0.05182
CLVL1A          -0.03529
CLVL1B          -0.15388
CLVL1C           0.00787
CLVL1D          -0.06485
DMQ011          -0.11913
IDALT1          -0.03223
DMQ052          -0.21666
DMQ010           0.12242
DMQ035          -0.09529
```

```
               FACTOR 11

DPOUT1         -0.02219
ELALT1         -0.07162
DMQ055         -0.12486
DMQ044         -0.06066
DMQ054          0.04901
DMQ059          0.01938
DMQ026          0.12414
DMQ034          0.04114
DMQ043          0.66010
DMQ033          0.15918
DMQ039          0.12851
DMQ051          0.00757
DMQ040          0.10854
DMQ050         -0.11494
DMQ058          0.21489


TRANSFORMATION MATRIX

               FACTOR  1   FACTOR  2   FACTOR  3   FACTOR  4   FACTOR  5   FACTOR  6   FACTOR  7   FACTOR  8   FACTOR  9   FACTOR 10

FACTOR  1        0.53736     0.31776    -0.10650     0.37506     0.48897    -0.22929     0.07188     0.15540    -0.10881     0.26516
FACTOR  2        0.09460     0.13873     0.56277     0.13513     0.13622     0.41845     0.31914     0.20225     0.49443     0.08472
FACTOR  3       -0.24296     0.71614     0.27387    -0.41139    -0.02303    -0.25807    -0.00095     0.23959    -0.18156    -0.15541
FACTOR  4        0.00419     0.52843    -0.55268     0.21370    -0.25080     0.34689     0.12302    -0.17071     0.28690    -0.21284
FACTOR  5        0.28911     0.10857    -0.10684    -0.41676    -0.11065     0.22165     0.32581    -0.33219    -0.34589     0.37217
FACTOR  6        0.48700    -0.07718     0.22671     0.11026    -0.70342    -0.24026     0.23857     0.13455    -0.06120    -0.17519
FACTOR  7       -0.35790     0.10155     0.04911     0.45409    -0.08557    -0.52783     0.29522    -0.32903     0.05793     0.10286
FACTOR  8        0.14104     0.22936     0.16916     0.17984    -0.29235     0.05278    -0.77398    -0.09432     0.06667     0.31910
FACTOR  9        0.00625     0.07860     0.43083     0.21377     0.12882     0.26272    -0.04127    -0.60195    -0.37106    -0.32373
FACTOR 10       -0.17226    -0.02347    -0.07843     0.37430    -0.08749     0.31976     0.01617     0.48370    -0.56019    -0.19392
FACTOR 11        0.38050    -0.01691    -0.07664    -0.12635     0.23416    -0.18259    -0.16314    -0.08036     0.14802    -0.65501
```

```
                FACTOR 11

FACTOR  1     -0.17694
FACTOR  2      0.23537
FACTOR  3     -0.04695
FACTOR  4     -0.12035
FACTOR  5      0.42835
FACTOR  6     -0.17701
FACTOR  7      0.39816
FACTOR  8      0.25313
FACTOR  9     -0.26516
FACTOR 10      0.35772
FACTOR 11      0.51078
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                       08/09/78        PAGE  13

CPU TIME REQUIRED..    4.92 SECONDS


                   FACTOR            VARIABLES=DEFPR2,DMQ091,DMQ086,DMQ090,
                                     DMQ072,DMQ074,DMQ076,DMQ088,DMQ089,
                                     DMQ075,DMQ094,DMQ099,DMQ087,DMQ093,
                                     DMQ097,DMQ084,DMQ092,DMQ100,DMQ071,
                                     DMQ085,DMQ098/
                   STATISTICS        1,2,4,5,6

 ***** FACTOR PROBLEM REQUIRES   8008 BYTES WORKSPACE *****
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                    08/09/78       PAGE   14

  1.VARIABLE LIST

VARIABLES..         LABELS..

DEFPR2
DMQ091              RAT EST ACT PLN DEC SITN 2 MOVIE
DMQ086              RAT CLR VLU DEC SITN 2 MOVIE
DMQ090              RAT CLR VLU DEC SITN 2 MOVIE
DMQ072              RAT IDEN ALT DEC SITN 2 MOVIE
DMQ074              RAT DISC P OUT DEC SITN 2 MOVIE
DMQ076              RAT DISC P OUT DEC SITN 2 MOVIE
DMQ088              RAT ELM ALT DEC SITN 2 MOVIE
DMQ089              RAT ELM ALT DEC SITN 2 MOVIE
DMQ075              INT DEC SITN 2 MOVIE
DMQ094              INT DEC SITN 2 MOVIE
DMQ099              INT DEC SITN 2 MOVIE
DMQ087              FAT DEC SITN 2 MOVIE
DMQ093              FAT DEC SITN 2 MOVIE
DMQ097              FAT DEC SITN 2 MOVIE
DMQ084              IMP DEC SITN 2 MOVIE
DMQ092              IMP DEC SITN 2 MOVIE
DMQ100              IMP DEC SITN 2 MOVIE
DMQ071              DEP DEC SITN 2 MOVIE
DMQ085              DEP DEC SITN 2 MOVIE
DMQ098              DEP DEC SITN 2 MOVIE
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                    08/09/78        PAGE  15

FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX

VARIABLE             MEAN     STANDARD DEV     CASES

DEFPR2             1.5589           0.4558       246
DMQ091             1.7480           0.4351       246
DMQ086             1.7398           0.4396       246
DMQ090             1.7114           0.4540       246
DMQ072             1.5935           0.4922       246
DMQ074             1.6463           0.4791       246
DMQ076             1.2642           0.4418       246
DMQ088             1.4390           0.4973       246
DMQ089             1.8618           0.3458       246
DMQ075             1.3984           0.4906       246
DMQ094             1.3618           0.4815       246
DMQ099             1.4187           0.4944       246
DMQ087             1.6179           0.4869       246
DMQ093             1.8252           0.3806       246
DMQ097             1.7927           0.4062       246
DMQ084             1.6301           0.4838       246
DMQ092             1.8252           0.3806       246
DMQ100             1.6382           0.4815       246
DMQ071             1.5122           0.5009       246
DMQ085             1.5000           0.5010       246
DMQ098             1.5041           0.5010       246
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                          08/09/78        PAGE  16

FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX

CORRELATION COEFFICIENTS..


                DEFPR2      DMQ091      DMQ086      DMQ090      DMQ072      DMQ074      DMQ076      DMQ088      DMQ089      DMQ075

DEFPR2         1.00000     0.31194     0.21944     0.14171     0.28010     0.04913     0.09463     0.16449     0.07779    -0.07807
DMQ091         0.31194     1.00000     0.21063     0.22947     0.30111     0.09935     0.09305     0.02301     0.09307    -0.10137
DMQ086         0.21944     0.21063     1.00000     0.01081     0.32038     0.08461     0.10319     0.33789     0.11154     0.08509
DMQ090         0.14171     0.22947     0.01081     1.00000     0.00253    -0.00206     0.01547    -0.05114     0.03086    -0.06808
DMQ072         0.28010     0.30111     0.32038     0.00253     1.00000     0.20139     0.15810     0.19849     0.14817    -0.15489
DMQ074         0.04913     0.09935     0.08461    -0.00206     0.20139     1.00000     0.15403     0.20894     0.07331    -0.07540
DMQ076         0.09463     0.09305     0.10319     0.01547     0.15810     0.15403     1.00000     0.17581    -0.00043     0.07732
DMQ088         0.16449     0.02301     0.33789    -0.05114     0.19849     0.20894     0.17581     1.00000     0.16441     0.28403
DMQ089         0.07779     0.09307     0.11154     0.03086     0.14817     0.07331    -0.00043     0.16441     1.00000     0.08529
DMQ075        -0.07807    -0.10137     0.08509    -0.06808    -0.15489    -0.07540     0.07732     0.28403     0.08529     1.00000
DMQ094         0.03262     0.02788     0.06083    -0.04318     0.07197     0.09689     0.14359     0.30559     0.10543     0.33774
DMQ099         0.08929    -0.01975     0.16522    -0.04132    -0.08606     0.02459     0.16416     0.29522     0.17275     0.50438
DMQ087        -0.03604    -0.03258    -0.06588    -0.05779    -0.00360    -0.09176    -0.13590    -0.07977     0.04868    -0.07780
DMQ093         0.02435     0.00401    -0.00456    -0.05694     0.07672    -0.09419    -0.16114    -0.02420     0.12582    -0.04088
DMQ097         0.11036     0.14196     0.06244     0.05047     0.12797    -0.04271    -0.14837    -0.01232    -0.03047    -0.07543
DMQ084        -0.04880     0.00126    -0.03214    -0.04207    -0.08557    -0.21456    -0.24740    -0.17049    -0.03848    -0.06446
DMQ092        -0.03448     0.00401    -0.00456     0.03755    -0.09761    -0.18374    -0.23396    -0.13203     0.00177    -0.10647
DMQ100        -0.10702    -0.08633    -0.11867    -0.05016    -0.19253    -0.16766    -0.25870    -0.22036    -0.05640    -0.11309
DMQ071         0.00131     0.10782     0.01447     0.04246     0.02020     0.04356     0.01305    -0.13629    -0.08448    -0.10291
DMQ085         0.12065     0.05618     0.03706    -0.06280    -0.03310    -0.02551     0.11985    -0.04915    -0.11779    -0.04982
DMQ098         0.04810     0.02345    -0.03224    -0.00379    -0.05948     0.01452     0.22562     0.04196    -0.09097     0.04321


                DMQ094      DMQ099      DMQ087      DMQ093      DMQ097      DMQ084      DMQ092      DMQ100      DMQ071      DMQ085

DEFPR2         0.03262     0.08929    -0.03604     0.02435     0.11036    -0.04880    -0.03448    -0.10702     0.00131     0.12065
DMQ091         0.02788    -0.01975    -0.03258     0.00401     0.14196     0.00126     0.00401    -0.08633     0.10782     0.05618
DMQ086         0.06083     0.16522    -0.06588    -0.00456     0.06244    -0.03214    -0.00456    -0.11867     0.01447     0.03706
DMQ090        -0.04318    -0.04132    -0.05779    -0.05694     0.05047    -0.04207     0.03755    -0.05016     0.04246    -0.06280
DMQ072         0.07197    -0.08606    -0.00360     0.07672     0.12797    -0.08557    -0.09761    -0.19253     0.02020    -0.03310
DMQ074         0.09689     0.02459    -0.09176    -0.09419    -0.04271    -0.21456    -0.18374    -0.16766     0.04356    -0.02551
DMQ076         0.14359     0.16416    -0.13590    -0.16114    -0.14837    -0.24740    -0.23396    -0.25870     0.01305     0.11985
DMQ088         0.30559     0.29522    -0.07977    -0.02420    -0.01232    -0.17049    -0.13203    -0.22036    -0.13629    -0.04915
DMQ089         0.10543     0.17275     0.04868     0.12582    -0.03047    -0.03848     0.00177    -0.05640    -0.08448    -0.11779
DMQ075         0.33774     0.50438    -0.07780    -0.04088    -0.07543    -0.06446    -0.10647    -0.11309    -0.10291    -0.04982
DMQ094         1.00000     0.42416     0.10461     0.10151     0.07203    -0.01887    -0.00986    -0.06691    -0.21300    -0.14381
DMQ099         0.42416     1.00000     0.00607    -0.08669     0.00719    -0.10067    -0.10839    -0.14979    -0.11137    -0.14008
DMQ087         0.10461     0.00607     1.00000     0.27687     0.21694     0.10792     0.10065     0.10432    -0.01429    -0.06693
DMQ093         0.10151    -0.08669     0.27687     1.00000     0.26628     0.20160     0.29545     0.21034     0.08617     0.01070
DMQ097         0.07203     0.00719     0.21694     0.26628     1.00000     0.21049     0.13427     0.09493     0.02251    -0.01003
DMQ084        -0.01887    -0.10067     0.10792     0.20160     0.21049     1.00000     0.46764     0.40438     0.11134    -0.00842
```

```
FILE    BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX



               DMQ094      DMQ099      DMQ087      DMQ093      DMQ097      DMQ084      DMQ092      DMQ100      DMQ071      DMQ085

DMQ092        -0.00986    -0.10839     0.10065     0.29545     0.13427     0.46764     1.00000     0.38854     0.08617    -0.03211
DMQ100        -0.06691    -0.14979     0.10432     0.21034     0.09493     0.40438     0.38854     1.00000     0.16223     0.09306
DMQ071        -0.21300    -0.11137    -0.01429     0.08617     0.02251     0.11134     0.08617     0.16223     1.00000     0.55301
DMQ085        -0.14381    -0.14008    -0.06693     0.01070    -0.01003    -0.00842    -0.03211     0.09306     0.55301     1.00000
DMQ098        -0.04842    -0.06458    -0.07726    -0.07118    -0.06603     0.01465    -0.02837     0.13302     0.47964     0.68295


               DMQ098

DEFPR2         0.04810
DMQ091         0.02345
DMQ086        -0.03224
DMQ090        -0.00379
DMQ072        -0.05948
DMQ074         0.01452
DMQ076         0.22562
DMQ088         0.04196
DMQ089        -0.09097
DMQ075         0.04321
DMQ094        -0.04842
DMQ099        -0.06458
DMQ087        -0.07726
DMQ093        -0.07118
DMQ097        -0.06603
DMQ084         0.01465
DMQ092        -0.02837
DMQ100         0.13302
DMQ071         0.47964
DMQ085         0.68295
DMQ098         1.00000

DETERMINANT OF CORRELATION MATRIX =  0.0135980( 0.13598036D-01)
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                      08/09/78        PAGE   18

FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX



VARIABLE   EST COMMUNALITY                     FACTOR         EIGENVALUE   PCT OF VAR   CUM PCT

DEFPR2            0.21778                         1             2.99524       14.3        14.3
DMQ091            0.22605                         2             2.37706       11.3        25.6
DMQ086            0.24287                         3             2.08235        9.9        35.5
DMQ090            0.10915                         4             1.82954        8.7        44.2
DMQ072            0.31844                         5             1.21247        5.8        50.0
DMQ074            0.15684                         6             1.09167        5.2        55.2
DMQ076            0.23008                         7             0.98832        4.7        59.9
DMQ088            0.32222                         8             0.93211        4.4        64.3
DMQ089            0.11003                         9             0.84268        4.0        68.3
DMQ075            0.35952                        10             0.75638        3.6        71.9
DMQ094            0.31812                        11             0.75295        3.6        75.5
DMQ099            0.41932                        12             0.71515        3.4        78.9
DMQ087            0.14099                        13             0.65764        3.1        82.1
DMQ093            0.25265                        14             0.62240        3.0        85.0
DMQ097            0.17746                        15             0.57936        2.8        87.8
DMQ084            0.32589                        16             0.55552        2.6        90.4
DMQ092            0.32252                        17             0.50434        2.4        92.8
DMQ100            0.30574                        18             0.46723        2.2        95.1
DMQ071            0.41306                        19             0.44315        2.1        97.2
DMQ085            0.57539                        20             0.33209        1.6        98.8
DMQ098            0.54724                        21             0.26219        1.2       100.0

 CONVERGENCE REQUIRED  13 ITERATIONS
```

```
FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX

FACTOR MATRIX USING PRINCIPAL FACTOR WITH ITERATIONS



                FACTOR  1   FACTOR  2   FACTOR  3   FACTOR  4   FACTOR  5   FACTOR  6

DEFFR2            0.18541     0.19689     0.39510    -0.06383     0.13118     0.08311
DMQ091            0.11715     0.20737     0.48884    -0.16603     0.27254     0.21183
DMQ086            0.30277     0.12848     0.37164     0.05513     0.09056    -0.22856
DMQ090            0.01239     0.04975     0.13020    -0.14702     0.28463     0.20457
DMQ072            0.27416     0.16223     0.53399    -0.25093    -0.15977    -0.13687
DMQ074            0.27301     0.16179     0.07054    -0.14357    -0.11704    -0.07921
DMQ076            0.35638     0.32320    -0.05113     0.00087    -0.01397     0.02131
DMQ088            0.54316     0.07818     0.17308     0.23597    -0.08343    -0.26883
DMQ089            0.20087    -0.08930     0.18888     0.06764    -0.03048    -0.01949
DMQ075            0.38379    -0.08235    -0.19333     0.52636     0.10718     0.02587
DMQ094            0.38317    -0.17129     0.12231     0.39740    -0.09114     0.09050
DMQ099            0.51920    -0.12142    -0.03634     0.50576     0.14121     0.15887
DMQ087           -0.16010    -0.22106     0.18612     0.12207    -0.32163     0.24437
DMQ093           -0.25359    -0.19465     0.37768     0.21125    -0.29330     0.05740
DMQ097           -0.13422    -0.12419     0.39081     0.08996    -0.09268     0.17619
DMQ084           -0.48405    -0.21846     0.24305     0.25974     0.18017    -0.13754
DMQ092           -0.46184    -0.24316     0.27863     0.23123     0.17975    -0.16431
DMQ100           -0.54532    -0.11606     0.07473     0.24256     0.06726    -0.10803
DMQ071           -0.34784     0.52289     0.09102     0.14162    -0.00294     0.03562
DMQ085           -0.29031     0.77072    -0.00495     0.24023    -0.09746     0.03568
DMQ098           -0.20256     0.71844    -0.08632     0.32361    -0.02336     0.00228
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                 08/09/78        PAGE   20

FILE    BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX



VARIABLE        COMMUNALITY                         FACTOR          EIGENVALUE   PCT OF VAR   CUM PCT

DEFPR2             0.25744                             1              2.41493        29.8        29.8
DMQ091             0.44240                             2              1.92873        23.8        53.7
DMQ086             0.30977                             3              1.45022        17.9        71.6
DMQ090             0.16406                             4              1.32079        16.3        87.9
DMQ072             0.49385                             5              0.54516         6.7        94.7
DMQ074             0.14627                             6              0.43227         5.3       100.0
DMQ076             0.23473
DMQ088             0.46600
DMQ089             0.08989
DMQ075             0.48066
DMQ094             0.36554
DMQ099             0.58661
DMQ087             0.28720
DMQ093             0.37878
DMQ097             0.23390
DMQ084             0.45995
DMQ092             0.46284
DMQ100             0.39145
DMQ071             0.42402
DMQ085             0.74679
DMQ098             0.66991
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                          08/09/78         PAGE   21

FILE    BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX

     VARIMAX ROTATED FACTOR MATRIX



                  FACTOR   1   FACTOR   2   FACTOR   3   FACTOR   4   FACTOR   5   FACTOR   6

DEFPR2             0.08356    -0.06887     0.02815     0.05816     0.32654     0.36730
DMQ091             0.06986    -0.03008    -0.05105     0.07035     0.28096     0.59171
DMQ086             0.02012     0.00741     0.13445    -0.06537     0.52051     0.12664
DMQ090            -0.03001    -0.00170    -0.04180    -0.05658    -0.03495     0.39621
DMQ072            -0.02986    -0.18410    -0.16565     0.16595     0.61271     0.16931
DMQ074             0.00809    -0.27947    -0.02877    -0.04304     0.25569    -0.00688
DMQ076             0.17240    -0.35900     0.15146    -0.15028     0.16565     0.05621
DMQ088            -0.01727    -0.16804     0.39242    -0.07638     0.51086    -0.12909
DMQ089            -0.11170    -0.02006     0.15151     0.09605     0.20798     0.03958
DMQ075            -0.00047    -0.03282     0.67145    -0.11944    -0.03180    -0.11603
DMQ094            -0.10409    -0.05836     0.53620     0.19316     0.15617    -0.04575
DMQ099            -0.07952    -0.09790     0.75134    -0.01997     0.04799     0.05905
DMQ087            -0.05452     0.07130     0.01700     0.51722    -0.08942    -0.05783
DMQ093             0.01949     0.28452    -0.00990     0.52904     0.10422    -0.08131
DMQ097            -0.01349     0.18065     0.00268     0.40579     0.09420     0.16593
DMQ084             0.03631     0.66364    -0.03690     0.12470    -0.03225     0.01601
DMQ092            -0.00394     0.66602    -0.05142     0.12637     0.01281     0.02140
DMQ100             0.14837     0.55873    -0.09927     0.11326    -0.15738    -0.09907
DMQ071             0.61682     0.11158    -0.15208     0.03088    -0.01188     0.08293
DMQ085             0.85900    -0.03376    -0.08766    -0.00920    -0.00049    -0.00035
DMQ098             0.80943    -0.02310     0.04570    -0.10353    -0.02118    -0.03081



  TRANSFORMATION MATRIX

                  FACTOR   1   FACTOR   2   FACTOR   3   FACTOR   4   FACTOR   5   FACTOR   6

  FACTOR   1      -0.30943    -0.62757     0.53883    -0.19242     0.42178     0.07171
  FACTOR   2       0.86700    -0.33516    -0.14412    -0.23503     0.18747     0.15755
  FACTOR   3       0.00378     0.29175    -0.07594     0.49080     0.68091     0.45230
  FACTOR   4       0.37706     0.38783     0.78914     0.16289    -0.03969    -0.23783
  FACTOR   5      -0.08769     0.38512     0.16904    -0.63741    -0.10531     0.63090
  FACTOR   6       0.05180    -0.33161     0.17837     0.48376    -0.55736     0.55758
```

```
CPU TIME REQUIRED..    1.91 SECONDS


                    FACTOR          VARIABLES=DEFFR3,ESTAP3,DMQ167,DMQ110,
                                    DMQ112,CLVL3A,CLVL3B,DPOUT3A,DMQ145,
                                    DMQ152,DMQ163,DMQ116,DMQ168,DMQ149,
                                    DMQ151,DMQ162,DMQ109,DMQ114,DMQ142,
                                    DMQ115,DMQ138,DMQ150,DMQ108,DMQ117,
                                    DMQ146/
                                    NFACTORS=11
                    STATISTICS      1,2,4,5,6

 ***** FACTOR PROBLEM REQUIRES  11328 BYTES WORKSPACE *****
 1.VARIABLE LIST

VARIABLES..        LABELS..

DEFPR3
ESTAP3
DMQ167             RAT EST ACT PLN DEC SITN 3 COLLEGE
DMQ110             RAT IDEN ALT DEC SITN 3 COLLEGE
DMQ112             RAT IDEN ALT DEC SITN 3 COLLEGE
CLVL3A
CLVL3B
DPOUT3A
DMQ145             RAT DISC P OUT DEC SITN 3 COLLEGE
DMQ152             RAT DISC P OUT DEC SITN 3 COLLEGE
DMQ163             RAT DISC P OUT DEC SITN 3 COLLEGE
DMQ116             RAT ELM ALT DEC SITN 3 COLLEGE
DMQ168             RAT ELM ALT DEC SITN 3 COLLEGE
DMQ149             INT DEC SITN 3 COLLEGE
DMQ151             INT DEC SITN 3 COLLEGE
DMQ162             INT DEC SITN 3 COLLEGE
DMQ109             FAT DEC SITN 3 COLLEGE
DMQ114             FAT DEC SITN 3 COLLEGE
DMQ142             FAT DEC SITN 3 COLLEGE
DMQ115             IMP DEC SITN 3 COLLEGE
DMQ138             IMP DEC SITN 3 COLLEGE
DMQ150             IMP DEC SITN 3 COLLEGE
DMQ100             DEP DEC SITN 3 COLLEGE
DMQ117             DEP DEC SITN 3 COLLEGE
DMQ146             DEP DEC SITN 3 COLLEGE
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                              08/09/78         PAGE   24

FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX

VARIABLE              MEAN     STANDARD DEV      CASES

DEFPR3              1.4430           0.3913        228
ESTAP3              1.7632           0.3494        228
DMQ167              1.6535           0.4769        228
DMQ110              1.5175           0.50[illegible]        228
DMQ112              1.2851           0.4525        228
CLVL3A              1.4225           0.2430        228
CLVL3B              1.4839           0.2488        228
DPOUT3A             1.4668           0.2186        228
DMQ145              1.9035           0.2959        228
DMQ152              1.6228           0.4858        228
DMQ163              1.3246           0.4692        228
DMQ116              1.5614           0.4973        228
DMQ168              1.3070           0.4623        228
DMQ149              1.2500           0.4340        228
DMQ151              1.3816           0.4868        228
DMQ162              1.6096           0.4889        228
DMQ109              1.9254           0.2633        228
DMQ114              1.6842           0.4659        228
DMQ142              1.7193           0.4503        228
DMQ115              1.8509           0.3570        228
DMQ138              1.8377           0.3695        228
DMQ150              1.8246           0.3812        228
DMQ108              1.7982           0.4022        228
DMQ117              1.5439           0.4992        228
DMQ146              1.8509           0.3570        228
```

```
FILE    BREAKDON (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX

CORRELATION COEFFICIENTS..


               DEFPR3     ESTAP3     DMQ167     DMQ110     DMQ112     CLVL3A     CLVL3B     DPOUT3A    DMQ145     DMQ152

DEFPR3        1.00000    0.38412    0.25957    0.19621    0.26639    0.37297    0.40497    0.31521    0.04740    0.31512
ESTAP3        0.38412    1.00000    0.35136    0.45187    0.22000    0.30379    0.25967    0.33234    0.16147    0.23703
DMQ167        0.25957    0.35136    1.00000    0.27458    0.11274    0.19319    0.25593    0.24371    0.01177    0.19401
DMQ110        0.19621    0.45187    0.27458    1.00000    0.25975    0.18761    0.18485    0.30477    0.13038    0.17220
DMQ112        0.26639    0.22000    0.11274    0.25975    1.00000    0.35828    0.17781    0.27650    0.10766    0.17073
CLVL3A        0.37297    0.30379    0.19319    0.18761    0.35828    1.00000    0.34654    0.18508    0.10020    0.13791
CLVL3B        0.40497    0.25967    0.25593    0.18485    0.17781    0.34654    1.00000    0.23793   -0.08128    0.13170
DPOUT3A       0.31521    0.33234    0.24371    0.30477    0.27650    0.18508    0.23793    1.00000    0.01069    0.34724
DMQ145        0.04740    0.16147    0.01177    0.13038    0.10766    0.10020   -0.08128    0.01069    1.00000    0.17475
DMQ152        0.31512    0.23703    0.19401    0.17220    0.17073    0.13791    0.13170    0.34724    0.17475    1.00000
DMQ163        0.24518    0.17536    0.30789    0.25686    0.06025    0.10638    0.22090    0.21972    0.00445    0.21098
DMQ116        0.31236    0.46437    0.26657    0.70320    0.24490    0.18063    0.32244    0.43291    0.04044    0.22396
DMQ168        0.24332    0.27491    0.20491    0.33819    0.16942    0.13533    0.06856    0.25121   -0.00791    0.26296
DMQ149        0.18808   -0.02905    0.10111   -0.01014    0.03926    0.05256    0.00492    0.10570   -0.05146    0.07314
DMQ151        0.06846    0.09338    0.19249    0.14408    0.14394    0.03397    0.00834    0.24572    0.07323    0.08971
DMQ162        0.15947    0.03665    0.02196    0.03709    0.10700    0.09715   -0.02181    0.11418    0.07346    0.19347
DMQ109        0.02270   -0.02520    0.03894   -0.07357   -0.11662   -0.01093   -0.05228    0.04601    0.19000    0.02025
DMQ114       -0.01463   -0.05555    0.00105   -0.16498   -0.03080    0.00323   -0.01884    0.06974    0.00169   -0.02254
DMQ142       -0.12872   -0.06041   -0.02411   -0.15387   -0.18927   -0.06623   -0.18484   -0.11988   -0.07191   -0.12365
DMQ115       -0.02959   -0.07249   -0.07195   -0.30563   -0.03564    0.00131   -0.17614   -0.03240    0.19681    0.00446
DMQ138       -0.04904   -0.14546   -0.07050   -0.28212   -0.14365   -0.05141   -0.03671   -0.09424   -0.02297   -0.12163
DMQ150       -0.17072   -0.14798   -0.11777   -0.19150   -0.16849   -0.06902   -0.23140   -0.08781    0.00548   -0.02588
DMQ108        0.03855    0.05033   -0.06749    0.01765    0.12381    0.03466   -0.01810   -0.06538   -0.01623   -0.03046
DMQ117        0.05797   -0.00332   -0.11168   -0.03833    0.24673    0.10758   -0.03582    0.03571    0.02878    0.08670
DMQ146        0.01771    0.06878   -0.12370   -0.03458    0.10072    0.03548   -0.07694   -0.03868    0.07170   -0.02094


               DMQ163     DMQ116     DMQ168     DMQ149     DMQ151     DMQ162     DMQ109     DMQ114     DMQ142     DMQ115

DEFPR3        0.24518    0.31236    0.24332    0.18808    0.06846    0.15947    0.02270   -0.01463   -0.12872   -0.02959
ESTAP3        0.17536    0.46437    0.27491   -0.02905    0.09338    0.03665   -0.02520   -0.05555   -0.06041   -0.07249
DMQ167        0.30789    0.26657    0.20491    0.10111    0.19249    0.02196    0.03894    0.00105   -0.02411   -0.07195
DMQ110        0.25686    0.70320    0.33819   -0.01014    0.14408    0.03709   -0.07357   -0.16498   -0.15387   -0.30563
DMQ112        0.06025    0.24490    0.16942    0.03926    0.14394    0.10700   -0.11662   -0.03080   -0.18927   -0.03564
CLVL3A        0.10638    0.18063    0.13533    0.05256    0.03397    0.09715   -0.01093    0.00323   -0.06623    0.00131
CLVL3B        0.22090    0.32244    0.06856    0.00492    0.00834   -0.02181   -0.05228   -0.01884   -0.18484   -0.17614
DPOUT3A       0.21972    0.43291    0.25121    0.10570    0.24572    0.11418    0.04601    0.06974   -0.11988   -0.03240
DMQ145        0.00445    0.04044   -0.00791   -0.05146    0.07323    0.07346    0.19000    0.00169   -0.07191    0.19681
DMQ152        0.21098    0.22396    0.26296    0.07314    0.08971    0.19347    0.02025   -0.02254   -0.12365    0.00446
DMQ163        1.00000    0.29178    0.26971    0.14062    0.111[illegible]    0.05542    0.01846   -0.09333   -0.19238   -0.10427
DMQ116        0.29178    1.00000    0.43503    0.02041    0.13024    0.03560   -0.11629   -0.14411   -0.15874   -0.27077
```

```
FILE    BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX



                DMQ163      DMQ116      DMQ168      DMQ149      DMQ151      DMQ162      DMQ109      DMQ114      DMQ142      DMQ115

DMQ168         0.26971     0.43503     1.00000     0.09882     0.14269     0.08430    -0.06445    -0.10012    -0.04975    -0.20184
DMQ149         0.14062     0.02041     0.09882     1.00000     0.42224     0.19206     0.08676     0.15253     0.09017     0.07109
DMQ151         0.11113     0.13024     0.14269     0.42224     1.00000     0.27689     0.08548     0.16460     0.14912    -0.02601
DMQ162         0.05542     0.03560     0.08430     0.19206     0.27689     1.00000     0.14937     0.19139     0.14041     0.16982
DMQ109         0.01846    -0.11629    -0.06445     0.08676     0.08548     0.14937     1.00000     0.27413     0.08280     0.25617
DMQ114        -0.09333    -0.14411    -0.10012     0.15253     0.16460     0.19139     0.27413     1.00000     0.35256     0.27186
DMQ142        -0.19238    -0.15874    -0.04975     0.09017     0.14912     0.14041     0.08280     0.35256     1.00000     0.25912
DMQ115        -0.10427    -0.27077    -0.20184     0.07109    -0.02601     0.16982     0.25617     0.27186     0.25912     1.00000
DMQ138        -0.17762    -0.24519    -0.06809     0.06181    -0.02158     0.06235     0.14679     0.18722     0.20157     0.38346
DMQ150        -0.12357    -0.24503    -0.11798    -0.05326     0.05372     0.08004     0.17637     0.20761     0.25078     0.32487
DMQ108        -0.11835    -0.06994    -0.06817    -0.08834     0.03493     0.04579    -0.01788     0.12870     0.17239     0.06567
DMQ117        -0.06104    -0.04639     0.05594     0.02034     0.12117     0.20585     0.04176     0.09771     0.05501     0.18520
DMQ146        -0.13056    -0.07226    -0.06837    -0.04265     0.05003     0.01838     0.11555     0.16591     0.09471     0.10128



                DMQ138      DMQ150      DMQ108      DMQ117      DMQ146

DEFFR3        -0.04904    -0.17072     0.03855     0.05797     0.01771
ESTAP3        -0.14546    -0.14798     0.05033    -0.00332     0.06878
DMQ167        -0.07050    -0.11777    -0.06749    -0.11168    -0.12370
DMQ110        -0.28212    -0.19150     0.01765    -0.03833    -0.03458
DMQ112        -0.14365    -0.16849     0.12381     0.24673     0.10072
CLVL3A        -0.05141    -0.06902     0.03466     0.10758     0.03548
CLVL3B        -0.03671    -0.23140    -0.01810    -0.03582    -0.07694
DPOUT3A       -0.09424    -0.08781    -0.06538     0.03571    -0.03865
DMQ145        -0.02297     0.00548    -0.01623     0.02878     0.07170
DMQ152        -0.12163    -0.02588    -0.03046     0.08670    -0.02094
DMQ163        -0.17762    -0.12357    -0.11835    -0.06104    -0.13056
DMQ116        -0.24519    -0.24503    -0.06994    -0.04639    -0.07226
DMQ168        -0.06809    -0.11798    -0.06817     0.05594    -0.06837
DMQ149         0.06181    -0.05326    -0.08834     0.02034    -0.04265
DMQ151        -0.02158     0.05372     0.03493     0.12117     0.05003
DMQ162         0.06235     0.08004     0.04579     0.20585     0.01838
DMQ109         0.14679     0.17637    -0.01788     0.04176     0.11555
DMQ114         0.18722     0.20761     0.12870     0.09771     0.16591
DMQ142         0.20157     0.25078     0.17239     0.05501     0.09471
DMQ115         0.38346     0.32487     0.06567     0.18520     0.10128
DMQ138         1.00000     0.48505     0.04550     0.19400     0.21649
DMQ150         0.48505     1.00000    -0.00201     0.06377     0.19538
DMQ108         0.04550    -0.00201     1.00000     0.35147     0.37249
DMQ117         0.19400     0.06377     0.35147     1.00000     0.28408
DMQ146         0.21649     0.19538     0.37249     0.28408     1.00000


DETERMINANT OF CORRELATION MATRIX =  0.0023171( 0.23170849D-02)
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                      08/09/78        PAGE   27
FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX


VARIABLE    EST COMMUNALITY                    FACTOR         EIGENVALUE    PCT OF VAR    CUM PCT

DEFPR3           0.39057                          1             4.43841         17.8         17.8
ESTAP3           0.40259                          2             2.71049         10.8         28.6
DMQ167           0.27360                          3             1.77284          7.1         35.7
DMQ110           0.57737                          4             1.41463          5.7         41.3
DMQ112           0.31518                          5             1.34750          5.4         46.7
CLVL3A           0.28961                          6             1.25084          5.0         51.7
CLVL3B           0.35748                          7             1.11293          4.5         56.2
DPOUT3A          0.35594                          8             0.95438          3.8         60.0
DMQ145           0.19959                          9             0.92743          3.7         63.7
DMQ152           0.26819                         10             0.87456          3.5         67.2
DMQ163           0.24253                         11             0.80609          3.2         70.4
DMQ116           0.62551                         12             0.77673          3.1         73.5
DMQ168           0.30932                         13             0.72550          2.9         76.5
DMQ149           0.28636                         14             0.71017          2.8         79.3
DMQ151           0.34988                         15             0.66250          2.7         81.9
DMQ162           0.20068                         16             0.61600          2.5         84.4
DMQ109           0.18920                         17             0.57380          2.3         86.7
DMQ114           0.26604                         18             0.52901          2.1         88.8
DMQ142           0.29514                         19             0.51236          2.0         90.9
DMQ115           0.38242                         20             0.47293          1.9         92.8
DMQ138           0.40374                         21             0.45687          1.8         94.6
DMQ150           0.37043                         22             0.42468          1.7         96.3
DMQ108           0.27707                         23             0.37319          1.5         97.8
DMQ117           0.28574                         24             0.32184          1.3         99.1
DMQ146           0.26143                         25             0.23495          0.9        100.0

MORE THAN 25 ITERATIONS REQUIRED.
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                              08/09/78       PAGE   28

FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX

FACTOR MATRIX USING PRINCIPAL FACTOR WITH ITERATIONS



             FACTOR  1  FACTOR  2  FACTOR  3  FACTOR  4  FACTOR  5  FACTOR  6  FACTOR  7  FACTOR  8  FACTOR  9  FACTOR 10

DEFPR3        0.53522    0.25027    0.07413    0.28783   -0.17454    0.08834    0.06707   -0.08366    0.01251    0.12593
ESTAP3        0.50636    0.15786    0.13615    0.05485    0.22780    0.04653    0.19022    0.06591   -0.04805    0.08745
DMQ167        0.44021    0.10697   -0.19533    0.11581    0.04661    0.11705    0.12887    0.07361    0.00901    0.14732
DMQ110        0.67520   -0.04430    0.06279   -0.25018    0.33262   -0.00243   -0.00483    0.13453   -0.03002   -0.00356
DMQ112        0.42134    0.19599    0.33052   -0.05513   -0.22508   -0.13220   -0.08253    0.02949   -0.20782   -0.19845
CLVL3A        0.38972    0.21605    0.21063    0.22690   -0.15199    0.05922    0.12849    0.08308   -0.24346   -0.03706
CLVL3B        0.46877    0.01829    0.05941    0.31679   -0.21926    0.32004    0.08043    0.14883    0.08440   -0.05419
DPOUT3A       0.54201    0.24758   -0.10784    0.06013    0.03517   -0.03968   -0.08169   -0.12813    0.17965   -0.32713
DMQ145        0.08705    0.17316    0.08366    0.07525    0.18798   -0.49057    0.16132    0.18240   -0.10789    0.08364
DMQ152        0.39932    0.20412   -0.03016    0.13181    0.01200   -0.24773   -0.04812   -0.28833    0.08005    0.08321
DMQ163        0.42730   -0.00932   -0.20323    0.10088   -0.01957   -0.02201   -0.05020   -0.04521    0.12599    0.18251
DMQ116        0.77852   -0.03331   -0.00267   -0.15634    0.34370    0.13389   -0.09339   -0.00056    0.02524   -0.14115
DMQ168        0.47373    0.07077   -0.08623   -0.09138    0.13542    0.03947   -0.20614   -0.21027   -0.07271    0.15724
DMQ149        0.11761    0.29255   -0.38051   -0.05701   -0.29825    0.05121   -0.07444    0.05667   -0.02360    0.07595
DMQ151        0.22020    0.46171   -0.40940   -0.44124   -0.21974   -0.06472   -0.12623    0.26889   -0.03356    0.02121
DMQ162        0.08211    0.41090   -0.11869   -0.06637   -0.09697   -0.13631   -0.01363   -0.15169   -0.05381    0.01341
DMQ109       -0.12206    0.33039   -0.15111    0.14298    0.11033   -0.19354    0.15655    0.11419    0.22967    0.00772
DMQ114       -0.19674    0.47138   -0.12352   -0.02546   -0.01520    0.09229    0.23080   -0.02303    0.14930   -0.18175
DMQ142       -0.32694    0.39223   -0.16957   -0.25769    0.17454    0.32534    0.32696   -0.20594   -0.20822    0.00854
DMQ115       -0.33991    0.46433   -0.00542    0.24071    0.09613   -0.16529    0.08877   -0.05950   -0.08272   -0.05317
DMQ138       -0.40628    0.45752    0.02218    0.33701    0.22303    0.26411   -0.39433    0.13146   -0.06677    0.04829
DMQ150       -0.38900    0.34573   -0.06932    0.10879    0.28780    0.01944   -0.16169    0.02648   -0.02322   -0.03155
DMQ108       -0.07998    0.28205    0.50112   -0.29983   -0.08116    0.14230    0.11228   -0.02561    0.18017    0.14553
DMQ117       -0.03516    0.41642    0.37911   -0.14494   -0.14532   -0.06188   -0.20905   -0.11870    0.00551    0.03879
DMQ146       -0.13368    0.34825    0.38952   -0.13188    0.07020    0.03029   -0.03839    0.13232    0.18025    0.05915



             FACTOR 11

DEFPR3        0.04873
ESTAP3       -0.15380
DMQ167       -0.17377
DMQ110        0.10163
DMQ112       -0.04121
CLVL3A       -0.00160
CLVL3B        0.07540
DPOUT3A      -0.18567
DMQ145        0.04864
DMQ152       -0.11702
DMQ163        0.02903
DMQ116        0.22132
```

```
               FACTOR 11

DMQ168          0.02144
DMQ149          0.14023
DMQ151         -0.14040
DMQ162          0.15060
DMQ109          0.14051
DMQ114          0.06523
DMQ142         -0.01125
DMQ115          0.05071
DMQ138          0.01152
DMQ150         -0.12172
DMQ108         -0.03133
DMQ117          0.09128
DMQ146         -0.04874



VARIABLE        COMMUNALITY                  FACTOR        EIGENVALUE    PCT OF VAR    CUM PCT

DEFPR3            0.50559                       1            3.99001         32.8         32.8
ESTAP3            0.51849                       2            2.19705         18.1         50.9
DMQ167            0.34667                       3            1.23679         10.2         61.1
DMQ110            0.66439                       4            0.98787          8.1         69.2
DMQ112            0.48831                       5            0.85453          7.0         76.2
CLVL3A            0.40507                       6            0.77033          6.3         82.6
CLVL3B            0.51883                       7            0.62949          5.2         87.8
DPOUT3A           0.56998                       8            0.45214          3.7         91.5
DMQ145            0.40651                       9            0.38495          3.2         94.7
DMQ152            0.39339                      10            0.35971          3.0         97.6
DMQ163            0.28961                      11            0.29015          2.4        100.0
DMQ116            0.84596
DMQ168            0.38229
DMQ149            0.37377
DMQ151            0.78597
DMQ162            0.27101
DMQ109            0.32706
DMQ114            0.39894
DMQ142            0.68507
DMQ115            0.44933
DMQ138            0.78764
DMQ150            0.41389
DMQ108            0.52169
DMQ117            0.43198
DMQ146            0.37146
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                  08/09/78       PAGE   30

FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX


     VARIMAX ROTATED FACTOR MATRIX



                FACTOR  1   FACTOR  2   FACTOR  3   FACTOR  4   FACTOR  5   FACTOR  6   FACTOR  7   FACTOR  8   FACTOR  9   FACTOR 10

DEFPR3            0.58504     0.05165    -0.04723     0.13985     0.08797    -0.04936     0.35433    -0.00538     0.05229    -0.01887
ESTAP3            0.38384     0.08581    -0.06003     0.42489    -0.05644     0.07864     0.21365     0.19702    -0.03716     0.10088
DMQ167            0.30941    -0.13024    -0.03104     0.21954     0.14861     0.04555     0.21880     0.01694     0.01681     0.00723
DMQ110            0.13267     0.02570    -0.18639     0.74788     0.03723    -0.06222     0.07116     0.14555    -0.09541     0.05814
DMQ112            0.36898     0.23293    -0.12035     0.13751     0.11467    -0.09667     0.06997     0.17575    -0.22153     0.33630
CLVL3A            0.58501     0.06499    -0.01060     0.07921     0.02974     0.03704     0.05320     0.16091    -0.08916     0.10615
CLVL3B            0.62943    -0.05573    -0.08120     0.15248     0.01758    -0.16336     0.00844    -0.22025     0.08062     0.01315
DPOUT3A           0.21866    -0.04152    -0.01238     0.31111     0.12586    -0.06491     0.35682    -0.08220     0.13846     0.49797
DMQ145            0.01992     0.02731     0.00760     0.06157    -0.00894    -0.05686     0.06227     0.61408     0.13093     0.00938
DMQ152            0.13901     0.00740    -0.03962     0.10991     0.04490    -0.05197     0.56318     0.13226     0.03009     0.14148
DMQ163            0.17007    -0.15009    -0.10311     0.22186     0.14594    -0.15647     0.32597    -0.03985     0.04249    -0.09694
DMQ116            0.21519    -0.07119    -0.13527     0.85580     0.00976    -0.06555     0.14861    -0.05705    -0.02248     0.10630
DMQ168            0.08247    -0.03100     0.00164     0.41051     0.13122     0.00985     0.38435    -0.04387    -0.19172    -0.03854
DMQ149            0.13216    -0.09363     0.01477    -0.02912     0.55138     0.03613     0.09090    -0.08807     0.11627    -0.07599
DMQ151           -0.04691     0.09809    -0.00202     0.13982     0.82820     0.06822     0.02624     0.07380     0.01409     0.18840
DMQ162            0.05749     0.08783     0.05179     0.01225     0.30462     0.15599     0.22964     0.11311     0.14418     0.02701
DMQ109           -0.02672     0.02016     0.14401    -0.05596     0.09796     0.01335     0.05148     0.20422     0.49591    -0.03922
DMQ114            0.02847     0.14166     0.13161    -0.11171     0.17082     0.31831    -0.04448    -0.04295     0.44254     0.12860
DMQ142           -0.11448     0.10096     0.16240    -0.04666     0.12036     0.76609    -0.09221    -0.07476     0.11455    -0.06475
DMQ115            0.01231     0.06679     0.37485    -0.26895     0.00080     0.22382     0.05782     0.26111     0.28869     0.04088
DMQ138            0.03510     0.12256     0.84858    -0.12503     0.03087     0.02613    -0.08191    -0.08303     0.08762    -0.09781
DMQ150           -0.20420     0.06424     0.55165    -0.11600     0.00293     0.15317    -0.01926     0.07083     0.12868     0.05960
DMQ108            0.03424     0.69776    -0.07672    -0.02047    -0.04357     0.13670    -0.04027    -0.04754     0.01883    -0.04315
DMQ117            0.05403     0.53130     0.13570    -0.04299     0.11719     0.00098     0.12490     0.04695    -0.04495     0.05153
DMQ146           -0.01201     0.55875     0.18127     0.00443    -0.02221    -0.00381    -0.07403     0.07118     0.10913     0.03546



                FACTOR 11

DEFPR3            0.00194
ESTAP3            0.27248
DMQ167            0.33487
DMQ110            0.08974
DMQ112           -0.20984
CLVL3A           -0.04496
CLVL3B            0.08626
DPOUT3A           0.04693
DMQ145           -0.00178
DMQ152           -0.00743
DMQ163            0.11608
DMQ116           -0.04838
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                  08/09/78        PAGE   31

FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX



                FACTOR 11

DMQ168          -0.02804
DMQ149          -0.07633
DMQ151           0.14890
DMQ162          -0.23015
DMQ109           0.02166
DMQ114          -0.03932
DMQ142           0.02062
DMQ115          -0.15882
DMQ138          -0.05627
DMQ150           0.03623
DMQ108           0.02562
DMQ117          -0.30048
DMQ146           0.04476



TRANSFORMATION MATRIX


                FACTOR  1  FACTOR  2  FACTOR  3  FACTOR  4  FACTOR  5  FACTOR  6  FACTOR  7  FACTOR  8  FACTOR  9  FACTOR 10

FACTOR  1        0.50138   -0.07726   -0.31680    0.63199    0.14182   -0.18011    0.36893    0.04125   -0.12219    0.16691
FACTOR  2        0.23074    0.43540    0.45562   -0.01129    0.44433    0.33188    0.22386    0.18834    0.34696    0.16454
FACTOR  3        0.23253    0.71463   -0.04378   -0.00530   -0.53869   -0.14551   -0.12922    0.13743   -0.22993    0.05597
FACTOR  4        0.52963   -0.38911    0.40239   -0.31604   -0.38304   -0.25908    0.19763    0.05528    0.21361   -0.06692
FACTOR  5       -0.33991   -0.10049    0.41009    0.59614   -0.43948    0.20777    0.02287    0.24209    0.12372   -0.04183
FACTOR  6        0.31821    0.06782    0.20762    0.16829   -0.03992    0.32485   -0.27616   -0.74887   -0.10330   -0.17637
FACTOR  7        0.24366   -0.04633   -0.51477   -0.13537   -0.21605    0.54122   -0.15010    0.25852    0.38546   -0.06054
FACTOR  8        0.16840    0.02992    0.13494    0.11466    0.28086   -0.39503   -0.68466    0.29501    0.09710   -0.04216
FACTOR  9       -0.22388    0.28699   -0.15439    0.02417   -0.09599   -0.40767    0.19946   -0.37750    0.64197    0.02604
FACTOR 10       -0.01117    0.19556    0.01197   -0.08157    0.12040   -0.03345    0.33270    0.15813   -0.20653   -0.80563
FACTOR 11        0.07735   -0.06309   -0.09861    0.27948    0.03890   -0.06412   -0.19859   -0.00301    0.35690   -0.49942
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                              08/09/78        PAGE   32

FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX

                 FACTOR 11

FACTOR  1       0.09845
FACTOR  2      -0.09389
FACTOR  3      -0.17409
FACTOR  4       0.01367
FACTOR  5       0.19562
FACTOR  6       0.19164
FACTOR  7       0.27190
FACTOR  8       0.37072
FACTOR  9       0.26925
FACTOR 10       0.33437
FACTOR 11      -0.69304
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                08/09/78       PAGE   33

CPU TIME REQUIRED..     4.79 SECONDS


                    FACTOR              VARIABLES=DEFPR4,DMQ198,CLVL4A,CLVL4B,
                                        CLVL4C,CLVL4D,CLVL4E,IDALT4,DMQ179,
                                        DMQ180,DPOUT4,DMQ220,DMQ174,DMQ178,
                                        DMQ194,DMQ221,DMQ190,DMQ211,DMQ224,
                                        DMQ186,DMQ219,DMQ222,DMQ185,DMQ215,
                                        DMQ223/
                                        NFACTORS=11
                    STATISTICS          1,2,4,5,6

 ***** FACTOR PROBLEM REQUIRES  11328 BYTES WORKSPACE *****
```

```
  1.VARIABLE LIST

VARIABLES..        LABELS..

DEFPR4
DMQ198             RAT EST ACT PLN DEC SITN 4 PURCHASE
CLVL4A
CLVL4B
CLVL4C
CLVL4D
CLVL4E
IDALT4
DMQ179             RAT DISC P OUT DEC SITN 4 PURCHASE
DMQ180             RAT DISC P OUT DEC SITN 4 PURCHASE
DPOUT4
DMQ220             RAT DISC P OUT DEC SITN 4 PURCHASE
DMQ174             RAT ELM ALT DEC SITN 4 PURCHASE
DMQ178             INT DEC SITN 4 PURCHASE
DMQ194             INT DEC SITN 4 PURCHASE
DMQ221             INT DEC SITN 4 PURCHASE
DMQ190             FAT DEC SITN 4 PURCHASE
DMQ211             FAT DEC SITN 4 PURCHASE
DMQ224             FAT DEC SITN 4 PURCHASE
DMQ186             IMP DEC SITN 4 PURCHASE
DMQ219             IMP DEC SITN 4 PURCHASE
DMQ222             IMP DEC SITN 4 PURCHASE
DMQ185             DEP DEC SITN 4 PURCHASE
DMQ215             DEP DEC SITN 4 PURCHASE
DMQ223             DEP DEC SITN 4 PURCHASE
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                   08/09/78        PAGE   35

FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX

VARIABLE              MEAN    STANDARD DEV     CASES

DEFPR4              1.5392          0.2476       242
DMQ198              1.2438          0.4303       242
CLVL4A              1.5695          0.3078       242
CLVL4B              1.4848          0.2486       242
CLVL4C              1.4793          0.2518       242
CLVL4D              1.6108          0.3018       242
CLVL4E              1.5000          0.2509       242
IDALT4              1.5778          0.3120       242
DMQ179              1.1364          0.3439       242
DMQ180              1.4917          0.5010       242
DPOUT4              1.2679          0.3118       242
DMQ220              1.3884          0.4884       242
DMQ174              1.1033          0.3050       242
DMQ178              1.3471          0.4770       242
DMQ194              1.2355          0.4252       242
DMQ221              1.4959          0.5010       242
DMQ190              1.8843          0.3205       242
DMQ211              1.8099          0.3932       242
DMQ224              1.7893          0.4087       242
DMQ186              1.8182          0.3865       242
DMQ219              1.8926          0.3103       242
DMQ222              1.6694          0.4714       242
DMQ185              1.7727          0.4199       242
DMQ215              1.8967          0.3050       242
DMQ223              1.8347          0.3722       242
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                               08/09/78       PAGE  36

FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX

CORRELATION COEFFICIENTS..


               DEFPR4      DMQ198      CLVL4A      CLVL4B      CLVL4C      CLVL4D      CLVL4E      IDALT4      DMQ179      DMQ180

DEFPR4        1.00000     0.33176     0.33407     0.44649     0.49215     0.36924     0.48471     0.43219     0.06681     0.26188
DMQ198        0.33176     1.00000     0.22637     0.28684     0.39763     0.24367     0.32672     0.27537     0.25112     0.36552
CLVL4A        0.33407     0.22637     1.00000     0.43733     0.44989     0.62203     0.41269     0.44520     0.17836     0.16645
CLVL4B        0.44649     0.28684     0.43733     1.00000     0.65434     0.35007     0.62869     0.35885     0.04851     0.29882
CLVL4C        0.49215     0.39763     0.44989     0.65434     1.00000     0.32016     0.56944     0.42123     0.16836     0.30550
CLVL4D        0.36924     0.24367     0.62203     0.35007     0.32016     1.00000     0.36113     0.41515     0.02694     0.19135
CLVL4E        0.48471     0.32672     0.41269     0.62869     0.56944     0.36113     1.00000     0.40234     0.05608     0.28058
IDALT4        0.43219     0.27537     0.44520     0.35885     0.42123     0.41515     0.40234     1.00000     0.10047     0.23201
DMQ179        0.06681     0.25112     0.17836     0.04851     0.16836     0.02694     0.05608     0.10047     1.00000     0.09087
DMQ180        0.26188     0.36552     0.16645     0.29882     0.30550     0.19135     0.28058     0.23201     0.09087     1.00000
DPOUT4        0.14840     0.31521     0.14190     0.21165     0.24536     0.09578     0.23429     0.27407     0.34149     0.22000
DMQ220        0.09065     0.06087     0.00690     0.02579     0.09913     0.15700    -0.07911     0.10939     0.17743     0.06405
DMQ174        0.19337     0.18672     0.14432     0.10280     0.21697     0.10798     0.02710     0.06781     0.18163     0.12782
DMQ178        0.00705     0.17226     0.08897     0.04447     0.07134    -0.07150     0.04617     0.08725     0.16557     0.02942
DMQ194       -0.00938    -0.06569    -0.09320    -0.11664    -0.11592    -0.08582    -0.04541    -0.14400     0.14833    -0.00056
DMQ221       -0.02942    -0.06267     0.00690     0.03828     0.04854    -0.00383    -0.04408     0.07948     0.06349    -0.00013
DMQ190       -0.02978    -0.00522     0.13359     0.02979    -0.01285     0.10460     0.05147     0.04199    -0.00684     0.07155
DMQ211       -0.06523    -0.16642    -0.01885    -0.11471    -0.23563     0.05015    -0.15436    -0.09317    -0.08369    -0.11334
DMQ224       -0.02050    -0.10774     0.01317    -0.07937    -0.13005     0.00522     0.02018     0.04237    -0.06039    -0.05921
DMQ186       -0.17093    -0.20642    -0.01378    -0.11539    -0.18109     0.00755    -0.11426    -0.01983    -0.18732    -0.17923
DMQ219       -0.17899    -0.36240    -0.11623    -0.12902    -0.22349     0.00960    -0.12448    -0.12759    -0.48427    -0.19258
DMQ222       -0.05433    -0.17381    -0.10030    -0.06667    -0.13948    -0.05236    -0.15211    -0.14884    -0.00232    -0.08190
DMQ185       -0.00035    -0.03653     0.05648     0.03964     0.04028     0.05238     0.09840     0.08808    -0.21550     0.07979
DMQ215        0.06303     0.09787     0.01791     0.02468    -0.01918     0.04237     0.06319     0.00492     0.09531     0.17091
DMQ223        0.08568     0.01949     0.00899    -0.01238     0.02224     0.11461     0.07398     0.06360    -0.11493     0.08165


               DPOUT4      DMQ220      DMQ174      DMQ178      DMQ194      DMQ221      DMQ190      DMQ211      DMQ224      DMQ186

DEFPR4        0.14840     0.09065     0.19337     0.00705    -0.00938    -0.02942    -0.02978    -0.06523    -0.02050    -0.17093
DMQ198        0.31521     0.06087     0.18672     0.17226    -0.06569    -0.06267    -0.00522    -0.16642    -0.10774    -0.20642
CLVL4A        0.14190     0.00690     0.14432     0.08897    -0.09320     0.00690     0.13359    -0.01885     0.01317    -0.01378
CLVL4B        0.21165     0.02579     0.10280     0.04447    -0.11664     0.03828     0.02979    -0.11471    -0.07937    -0.11539
CLVL4C        0.24536     0.09913     0.21697     0.07134    -0.11592     0.04854    -0.01285    -0.23563    -0.13005    -0.18109
CLVL4D        0.09578     0.15700     0.10798    -0.07150    -0.08582    -0.00383     0.10460     0.05015     0.00522     0.00755
CLVL4E        0.23429    -0.07911     0.02710     0.04617    -0.04541    -0.04408     0.05147    -0.15436     0.02018    -0.11426
IDALT4        0.27407     0.10939     0.06781     0.08725    -0.14400     0.07948     0.04199    -0.09317     0.04237    -0.01983
DMQ179        0.34149     0.17743     0.18163     0.16557     0.14833     0.06349    -0.00684    -0.08369    -0.06039    -0.18732
DMQ180        0.22000     0.06405     0.12782     0.02942    -0.00056    -0.00013     0.07155    -0.11334    -0.05921    -0.17923
DPOUT4        1.00000     0.08577     0.18770     0.19509    -0.05023     0.09778    -0.00708    -0.10201    -0.04370    -0.13371
DMQ220        0.08577     1.00000     0.09163    -0.11804     0.05714    -0.02732    -0.00328    -0.19732    -0.06631    -0.08592
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                08/09/78        PAGE   37

FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX



               DPOUT4      DMQ220      DMQ174      DMQ178      DMQ194      DMQ221      DMQ190      DMQ211      DMQ224      DMQ186

DMQ174        0.18770     0.09163     1.00000     0.15180     0.03557     0.12501     0.08033    -0.04318    -0.05763    -0.08640
DMQ178        0.19509    -0.11804     0.15180     1.00000     0.31124     0.31853     0.01952    -0.04497    -0.00633     0.07366
DMQ194       -0.05023     0.05714     0.03557     0.31124     1.00000     0.28700     0.07901     0.09517     0.16744     0.03443
DMQ221        0.09778    -0.02732     0.12501     0.31853     0.28700     1.00000     0.15204     0.20664     0.22878     0.06039
DMQ190       -0.00708    -0.00328     0.08033     0.01952     0.07901     0.15204     1.00000     0.21986     0.22488     0.09744
DMQ211       -0.10201 .  -0.19732    -0.04318    -0.04497     0.09517     0.20664     0.21986     1.00000     0.31777     0.15391
DMQ224       -0.04370    -0.06631    -0.05763    -0.00633     0.16744     0.22878     0.22488     0.31777     1.00000     0.09791
DMQ186       -0.13371    -0.08592    -0.08640     0.07366     0.03443     0.06039     0.09744     0.15391     0.09791     1.00000
DMQ219       -0.27328    -0.10679    -0.14529    -0.08339     0.00390     0.05051     0.04138     0.17201     0.21335     0.45921
DMQ222       -0.11962    -0.03470     0.03650    -0.02272     0.07955     0.11717     0.02043     0.17448     0.19687     0.07868
DMQ185       -0.16698    -0.17472    -0.07510    -0.03954    -0.04753     0.10399     0.11210     0.08910    -0.01428     0.12783
DMQ215        0.05928    -0.03591     0.02600     0.07637     0.15642     0.17370     0.13191     0.04319     0.09093    -0.05440
DMQ223       -0.03416    -0.05621    -0.06827     0.04404    -0.04138     0.01857     0.15206     0.03960     0.04283     0.13635



               DMQ219      DMQ222      DMQ185      DMQ215      DMQ223

DEFFR4       -0.17899    -0.05433    -0.00035     0.06303     0.08568
DMQ198       -0.36240    -0.17381    -0.03653     0.09787     0.01949
CLVL4A       -0.11623    -0.10030     0.05648     0.01791     0.00899
CLVL4B       -0.12902    -0.06667     0.03964     0.02468    -0.01238
CLVL4C       -0.22349    -0.13946     0.04028    -0.01918     0.02224
CLVL4D        0.00960    -0.05236     0.05238     0.04237     0.11461
CLVL4E       -0.12448    -0.15211     0.09840     0.06319     0.07398
IDALT4       -0.12759    -0.14884     0.08808     0.00492     0.06360
DMQ179       -0.48427    -0.00232    -0.21550     0.09531    -0.11493
DMQ180       -0.19258    -0.08190     0.07979     0.17091     0.08165
DPOUT4       -0.27328    -0.11962    -0.16698     0.05928    -0.03416
DMQ220       -0.10679    -0.03470    -0.17472    -0.03591    -0.05621
DMQ174       -0.14529     0.03650    -0.07510     0.02600    -0.06827
DMQ178       -0.08339    -0.02272    -0.03954     0.07637     0.04404
DMQ194        0.00390     0.07955    -0.04753     0.15642    -0.04138
DMQ221        0.05051     0.11717     0.10399     0.17370     0.01857
DMQ190        0.04138     0.02043     0.11210     0.13191     0.15206
DMQ211        0.17201     0.17448     0.08910     0.04319     0.03960
DMQ224        0.21335     0.19687    -0.01428     0.09093     0.04283
DMQ186        0.45921     0.07868     0.12783    -0.05440     0.13635
DMQ219        1.00000     0.12495     0.16211    -0.03007     0.09709
DMQ222        0.12495     1.00000     0.05908     0.02123     0.08932
DMQ185        0.16211     0.05908     1.00000     0.17230     0.34269
DMQ215       -0.03007     0.02123     0.17230     1.00000     0.28759
DMQ223        0.09709     0.08932     0.34269     0.28759     1.00000

DETERMINANT OF CORRELATION MATRIX =  0.0015749( 0.15749005D-02)
```

```
FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX



VARIABLE   EST COMMUNALITY                 FACTOR        EIGENVALUE   PCT OF VAR   CUM PCT

DEFPR4          0.42760                       1          4.63131       18.5        18.5
DMQ198          0.37316                       2          2.42064        9.7        28.2
CLVL4A          0.54277                       3          2.06915        8.3        36.5
CLVL4B          0.56517                       4          1.47130        5.9        42.4
CLVL4C          0.59371                       5          1.27180        5.1        47.5
CLVL4D          0.51468                       6          1.13386        4.5        52.0
CLVL4E          0.55670                       7          1.07283        4.3        56.3
IDALT4          0.41262                       8          1.00466        4.0        60.3
DMQ179          0.38356                       9          0.92596        3.7        64.0
DMQ180          0.23783                      10          0.90960        3.6        67.6
DPOUT4          0.28797                      11          0.83126        3.3        71.0
DMQ220          0.21238                      12          0.79984        3.2        74.2
DMQ174          0.16805                      13          0.73989        3.0        77.1
DMQ178          0.31031                      14          0.73301        2.9        80.1
DMQ194          0.27499                      15          0.66082        2.6        82.7
DMQ221          0.29751                      16          0.62301        2.5        85.2
DMQ190          0.15722                      17          0.58036        2.3        87.5
DMQ211          0.26765                      18          0.54685        2.2        89.7
DMQ224          0.25746                      19          0.51484        2.1        91.8
DMQ186          0.27640                      20          0.45129        1.8        93.6
DMQ219          0.44764                      21          0.37970        1.5        95.1
DMQ222          0.13519                      22          0.36116        1.4        96.5
DMQ185          0.25208                      23          0.34223        1.4        97.9
DMQ215          0.19510                      24          0.27473        1.1        99.0
DMQ223          0.25034                      25          0.24973        1.0       100.0

MORE THAN 25 ITERATIONS REQUIRED.
```

```
FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX

FACTOR MATRIX USING PRINCIPAL FACTOR WITH ITERATIONS



                FACTOR  1   FACTOR  2   FACTOR  3   FACTOR  4   FACTOR  5   FACTOR  6   FACTOR  7   FACTOR  8   FACTOR  9   FACTOR 10

DEFPR4           0.63369     0.11677    -0.04297    -0.01452     0.03135    -0.19040     0.19033     0.01867    -0.08542    -0.11736
DMQ198           0.55970    -0.19287     0.08001    -0.15866     0.07018     0.06459    -0.03612     0.05785    -0.02178     0.17327
CLVL4A           0.64244     0.29459    -0.00493     0.35004     0.05609     0.16424    -0.28934    -0.29329    -0.02825     0.00260
CLVL4B           0.69342     0.17498    -0.10386    -0.04886    -0.22439    -0.21068     0.04587    -0.05912     0.14095     0.02270
CLVL4C           0.76466     0.03375    -0.07887    -0.06393    -0.18603    -0.07647     0.10614    -0.05544     0.20232    -0.07271
CLVL4D           0.53252     0.33997    -0.08531     0.29682     0.21778     0.11284     0.00763    -0.13883    -0.04777     0.07212
CLVL4E           0.69849     0.22845    -0.09239    -0.16211    -0.19248    -0.22037    -0.01453     0.01130    -0.19607     0.10460
IDALT4           0.62510     0.21106    -0.01162     0.14121     0.03006     0.23232     0.00847     0.37944    -0.14792    -0.26109
DMQ179           0.28980    -0.41976     0.33128     0.12769     0.13487     0.03190    -0.09146    -0.03772    -0.00983     0.03295
DMQ180           0.43169    -0.01774     0.06076    -0.20828     0.13284    -0.02735     0.08896     0.04012     0.03039     0.13173
DPOUT4           0.41052    -0.24394     0.22025     0.01309    -0.03357     0.10725    -0.06889     0.29538     0.06747     0.20875
DMQ220           0.14044    -0.24013    -0.03488     0.30240     0.24374     0.11867     0.50328    -0.00666     0.03453    -0.01004
DMQ174           0.24749    -0.12452     0.21250     0.09327     0.00551     0.03629     0.05983    -0.05860     0.30485     0.05022
DMQ178           0.12530    -0.05519     0.55224    -0.10386    -0.38368     0.29315    -0.05921    -0.05864    -0.06463    -0.00608
DMQ194          -0.11223    -0.01278     0.55888     0.03755    -0.10218    -0.11691     0.24580    -0.23960    -0.26501    -0.03506
DMQ221           0.00194     0.19140     0.57194     0.03520    -0.10674    -0.01874     0.06633     0.07498     0.19227    -0.17631
DMQ190           0.03000     0.26361     0.23108     0.03784     0.19372    -0.04224    -0.05615     0.00572     0.07015     0.09964
DMQ211          -0.23077     0.34465     0.24706     0.15835     0.15137    -0.22858    -0.21718     0.08133     0.07215    -0.00372
DMQ224          -0.12685     0.33546     0.30237     0.18961     0.08562    -0.28041    -0.01697     0.21333    -0.09168     0.06001
DMQ186          -0.25470     0.38552    -0.02037     0.10080    -0.14798     0.24054     0.02845     0.02614     0.00324     0.09032
DMQ219          -0.41029     0.62391    -0.15350     0.12248    -0.26539     0.10722     0.25442     0.06159     0.04544     0.22328
DMQ222          -0.19430     0.14255     0.14471     0.04794     0.07458    -0.14025     0.04312    -0.03133     0.13558    -0.04999
DMQ185          -0.00391     0.43973    -0.02050    -0.39393     0.13950     0.13165    -0.02746    -0.07817     0.09198    -0.18628
DMQ215           0.07867     0.13633     0.30244    -0.29541     0.26376     0.00981     0.07568    -0.04858    -0.04873     0.10559
DMQ223           0.03289     0.34776     0.06607    -0.36359     0.26789     0.18453     0.07613    -0.01328    -0.01469     0.03103


                FACTOR 11

DEFPR4           0.33664
DMQ198           0.15432
CLVL4A          -0.05920
CLVL4B          -0.14400
CLVL4C          -0.07111
CLVL4D           0.07900
CLVL4E          -0.13159
IDALT4          -0.00543
DMQ179          -0.10779
DMQ180           0.02558
DPOUT4          -0.06773
DMQ220          -0.14651
```

```
FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX


                  FACTOR 11

DMQ174             0.21184
DMQ178             0.10427
DMQ194            -0.00569
DMQ221            -0.10089
DMQ190            -0.08912
DMQ211             0.10512
DMQ224            -0.04252
DMQ186            -0.00718
DMQ219             0.04398
DMQ222             0.05137
DMQ185            -0.07222
DMQ215            -0.05703
DMQ223             0.01103


VARIABLE           COMMUNALITY                   FACTOR        EIGENVALUE   PCT OF VAR   CUM PCT

DEFPR4               0.62546                        1           4.25191        34.8        34.8
DMQ198               0.45010                        2           1.92264        15.7        50.5
CLVL4A               0.82623                        3           1.54103        12.6        63.1
CLVL4B               0.66608                        4           0.92671         7.6        70.7
CLVL4C               0.70223                        5           0.77131         6.3        77.0
CLVL4D               0.58776                        6           0.63470         5.2        82.2
CLVL4E               0.72753                        7           0.61147         5.0        87.2
IDALT4               0.74437                        8           0.48615         4.0        91.2
DMQ179               0.42803                        9           0.39309         3.2        94.4
DMQ180               0.28059                       10           0.35174         2.9        97.3
DPOUT4               0.43406                       11           0.32832         2.7       100.0
DMQ220               0.51963
DMQ174               0.27930
DMQ178               0.58968
DMQ194               0.53994
DMQ221               0.46497
DMQ190               0.19051
DMQ211               0.40336
DMQ224               0.40158
DMQ186               0.31354
DMQ219               0.80047
DMQ222               0.13290
DMQ185               0.44098
DMQ215               0.29804
DMQ223               0.37162
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                         08/09/78        PAGE   41

FILE    BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX

     VARIMAX ROTATED FACTOR MATRIX



              FACTOR  1   FACTOR  2   FACTOR  3   FACTOR  4   FACTOR  5   FACTOR  6   FACTOR  7   FACTOR  8   FACTOR  9   FACTOR 10

DEFPR4          0.54696    -0.13977     0.00587    -0.00594     0.14913     0.05323     0.06703     0.24141    -0.04209     0.17935
DMQ198          0.30413    -0.27891     0.02092    -0.17710     0.12499     0.12313    -0.02169     0.05040     0.37356     0.17346
CLVL4A          0.36144    -0.06160     0.01861     0.02244     0.61601    -0.00680    -0.04835     0.10538     0.05263     0.06261
CLVL4B          0.78413    -0.04037    -0.03588    -0.04236     0.17216    -0.00989    -0.01077     0.02871     0.06251     0.07482
CLVL4C          0.73805    -0.13358    -0.00408    -0.17743     0.16560     0.01134     0.06210     0.13288     0.00062     0.21665
CLVL4D          0.30828     0.05761    -0.10425     0.07964     0.61848     0.10585     0.16412     0.12585     0.03971     0.08235
CLVL4E          0.76754    -0.04809     0.02522    -0.04117     0.18326     0.00242    -0.10499     0.05176     0.15985    -0.20372
IDALT4          0.36234    -0.02070    -0.01733    -0.01042     0.29354     0.06725     0.09283     0.67851     0.21950    -0.03710
DMQ179         -0.00564    -0.48045     0.20658    -0.00923     0.13798    -0.09590     0.14902    -0.01841     0.29512     0.10295
DMQ180          0.32738    -0.17207    -0.02257    -0.04900     0.03723     0.24478     0.06963     0.00286     0.22152     0.10082
DPOUT4          0.18451    -0.20017     0.06580    -0.02267     0.01854    -0.04726     0.04506     0.12255     0.56269     0.12773
DMQ220         -0.00720    -0.08372    -0.01372    -0.09932     0.05482    -0.06861     0.69642     0.04669     0.04147     0.07584
DMQ174          0.10316    -0.11608     0.09386     0.02287     0.07733    -0.03655     0.06928    -0.01279     0.12093     0.46710
DMQ178          0.00238     0.02810     0.65004    -0.09728     0.02770     0.03158    -0.21727     0.10045     0.23914     0.18963
DMQ194         -0.05112    -0.06418     0.65098     0.19891    -0.05738     0.02062     0.14300    -0.14454    -0.09997    -0.06191
DMQ221          0.05510     0.02313     0.41564     0.37261    -0.07851     0.10215     0.01329     0.15547     0.01054     0.20211
DMQ190          0.01552     0.02757     0.02902     0.33412     0.14225     0.20911     0.01959    -0.04472     0.06968     0.02166
DMQ211         -0.15374     0.07696    -0.01756     0.56875     0.06390     0.02975    -0.18388    -0.00145    -0.09579     0.04174
DMQ224         -0.00297     0.11341     0.09247     0.59665    -0.01568    -0.00495     0.00696     0.04559     0.03576    -0.13256
DMQ186         -0.15788     0.49761     0.07774     0.09150     0.09333     0.06342    -0.05599     0.03710    -0.02091    -0.03460
DMQ219         -0.06369     0.85620    -0.02346     0.17718    -0.04338     0.03078     0.01442    -0.07389    -0.13642    -0.06142
DMQ222         -0.09019     0.05570     0.02897     0.26824    -0.07300     0.04083     0.01185    -0.05923    -0.16977     0.10986
DMQ185          0.08242     0.14112    -0.05506     0.01787     0.02131     0.54727    -0.16574     0.11214    -0.22430    -0.02141
DMQ215          0.03322    -0.10874     0.15252     0.14885    -0.01458     0.46535     0.04186    -0.09077     0.10324    -0.01428
DMQ223          0.00666     0.11917    -0.02124     0.03162     0.03647     0.59067    -0.02508     0.04709    -0.00637    -0.01572



              FACTOR 11

DEFPR4          0.43000
DMQ198          0.21119
CLVL4A         -0.06992
CLVL4B         -0.07948
CLVL4C         -0.07526
CLVL4D          0.16534
CLVL4E          0.11239
IDALT4          0.05475
DMQ179         -0.07703
DMQ180          0.12450
DPOUT4         -0.05030
DMQ220          0.01179
```

```
               FACTOR 11

DMQ174          0.02754
DMQ178         -0.06828
DMQ194          0.10476
DMQ221         -0.26058
DMQ190         -0.07319
DMQ211          0.01768
DMQ224          0.05402
DMQ186         -0.08775
DMQ219          0.01376
DMQ222         -0.02517
DMQ185         -0.14191
DMQ215          0.04551
DMQ223          0.05019



TRANSFORMATION MATRIX

               FACTOR  1  FACTOR  2  FACTOR  3  FACTOR  4  FACTOR  5  FACTOR  6  FACTOR  7  FACTOR  8  FACTOR  9  FACTOR 10

FACTOR  1       0.74148   -0.30130    0.01168   -0.15381    0.39406    0.07395    0.07670    0.23423    0.28249    0.15262
FACTOR  2       0.24012    0.62325   -0.03927    0.44472    0.28846    0.39365   -0.17241    0.13894   -0.23760   -0.10441
FACTOR  3      -0.12324   -0.21126    0.75348    0.47222   -0.03900    0.17534   -0.01177    0.01077    0.24370    0.21989
FACTOR  4      -0.16538    0.12307   -0.01988    0.30962    0.49838   -0.67583    0.37065    0.11390   -0.00984    0.07214
FACTOR  5      -0.33106   -0.42535   -0.41594    0.27724    0.22744    0.50015    0.35739   -0.00328   -0.01888   -0.00764
FACTOR  6      -0.41309    0.30124    0.14366   -0.53251    0.33807    0.27124    0.07925    0.31687    0.28091    0.14232
FACTOR  7       0.19017    0.28595    0.19947   -0.11785   -0.34923    0.12115    0.78049   -0.00741   -0.15351    0.10088
FACTOR  8      -0.02150    0.11296   -0.28033    0.26370   -0.44164   -0.08976    0.00174    0.59344    0.52047   -0.10425
FACTOR  9       0.09059    0.06568   -0.32199    0.10663   -0.14813    0.02521    0.01623   -0.11952   -0.03117    0.76660
FACTOR 10       0.01875    0.29143   -0.12033    0.05548    0.08139    0.02392    0.02602   -0.65565    0.64650   -0.01551
FACTOR 11      -0.15676    0.07446    0.00351   -0.03733    0.00043   -0.06636   -0.28764    0.12618   -0.10764    0.53194
FACTOR ANALYSIS OF DHQ ITEMS WITHIN SITUATIONS                         08/09/78      PAGE   43

FILE   BREAKDON (CREATION DATE = 07/30/76)   OF STYLE SCORES BY AGE AND SEX

                FACTOR 11

FACTOR  1        0.10502
FACTOR  2       -0.00422
FACTOR  3       -0.09586
FACTOR  4       -0.02080
FACTOR  5        0.17195
FACTOR  6       -0.20167
FACTOR  7        0.22084
FACTOR  8        0.04021
[illegible]  9       -0.49664
F[illegible]0        0.20295
F[illegible]1        0.75555
```

```
CPU TIME REQUIRED..    4.47 SECONDS


                    FACTOR           VARIABLES=DMQ275,DEFPR5A,DEFPR5B,ESTAP5A,
                                     ESTAP5B,ESTAP5C,CLVL5A,CLVL5B,DMQ266,
                                     DMQ243,DMQ244,DMQ236,DMQ249,DMQ267,DMQ270,
                                     DMQ248,DMQ265,DMQ235,DMQ269,DMQ273,DMQ241,
                                     DMQ274,DMQ287,DMQ242,DMQ268,DMQ271,DMQ272,
                                     DMQ280,DMQ286/
                                     NFACTORS=11
                    STATISTICS       1,2,4,5,6

 ***** FACTOR PROBLEM REQUIRES  15224 BYTES WORKSPACE *****
```

```
  1.VARIABLE LIST

VARIABLES..        LABELS..

DMQ275             RAT DEF PROB DEC SITN 5 CLASS
DEFPR5A
DEFPR5B
ESTAP5A
ESTAP5B
ESTAP5C
CLVL5A
CLVL5B
DMQ266             RAT CLR VLU DEC SITN 5 CLASS
DMQ243             RAT IDEN ALT DEC SITN 5 CLASS
DMQ244             RAT IDEN ALT DEC SITN 5 CLASS
DMQ236             RAT DISC P OUT DEC SITN 5 CLASS
DMQ249             RAT DISC P OUT DEC SITN 5 CLASS
DMQ267             RAT DISC P OUT DEC SITN 5 CLASS
DMQ270             RAT DISC P OUT DEC SITN 5 CLASS
DMQ248             RAT ELM ALT DEC SITN 5 CLASS
DMQ265             RAT ELM ALT DEC SITN 5 CLASS
DMQ235             INT DEC SITN 5 CLASS
DMQ269             INT DEC SITN 5 CLASS
DMQ273             INT DEC SITN 5 CLASS
DMQ241             FAT DEC SITN 5 CLASS
DMQ274             FAT DEC SITN 5 CLASS
DMQ287             FAT DEC SITN 5 CLASS
DMQ242             IMP DEC SITN 5 CLASS
DMQ268             IMP DEC SITN 5 CLASS
DMQ271             IMP DEC SITN 5 CLASS
DMQ272             DEP DEC SITN 5 CLASS
DMQ280             DEP DEC SITN 5 CLASS
DMQ286             DEP DEC SITN 5 CLASS
```

```
FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX


VARIABLE              MEAN     STANDARD DEV      CASES

DMQ275              1.2616           0.4404        237
DEFPR5A             1.4135           0.3822        237
DEFPR5B             1.4662           0.3836        237
ESTAP5A             1.6751           0.3985        237
ESTAP5B             1.8633           0.4221        237
ESTAP5C             1.6288           0.3486        237
CLVL5A              1.5555           0.2443        237
CLVL5B              1.5569           0.2552        237
DMQ266              1.6076           0.4893        237
DMQ243              1.3038           0.4609        237
DMQ244              1.4937           0.5010        237
DMQ236              1.5190           0.5007        237
DMQ249              1.3165           0.4661        237
DMQ267              1.5738           0.4956        237
DMQ270              1.4008           0.4911        237
DMQ248              1.1561           0.3637        237
DMQ265              1.4430           0.4978        237
DMQ235              1.3502           0.4780        237
DMQ269              1.3882           0.4884        237
DMQ273              1.4304           0.4962        237
DMQ241              1.8650           0.3425        237
DMQ274              1.8692           0.3379        237
DMQ287              1.8186           0.3862        237
DMQ242              1.9451           0.2282        237
DMQ268              1.7848           0.4118        237
DMQ271              1.8861           0.3184        237
DMQ272              1.7215           0.4492        237
DMQ280              1.8776           0.3284        237
DMQ286              1.8987           0.3023        237
```

```
FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX

CORRELATION COEFFICIENTS..


              DMQ275     DEFPR5A    DEFPR5B    ESTAP5A    ESTAP5B    ESTAP5C    CLVL5A     CLVL5B     DMQ266     DMQ243

DMQ275        1.00000    0.17275    0.30328    0.18452    0.17267    0.30537    0.23193    0.34432   -0.05251    0.27481
DEFPR5A       0.17275    1.00000    0.48574    0.36413    0.59874    0.37485    0.22920    0.15545    0.12361    0.27009
DEFPR5B       0.30328    0.48574    1.00000    0.44071    0.41884    0.42838    0.39665    0.26469    0.10973    0.28594
ESTAP5A       0.18452    0.36413    0.44071    1.00000    0.34315    0.32591    0.21505    0.24501    0.10397    0.34357
ESTAP5B       0.17267    0.59874    0.41884    0.34315    1.00000    0.46296    0.13683    0.24808    0.11050    0.22746
ESTAP5C       0.30537    0.37485    0.42838    0.32591    0.46296    1.00000    0.22053    0.33605   -0.03139    0.25808
CLVL5A        0.23193    0.22920    0.39665    0.21505    0.13683    0.22053    1.00000    0.40083    0.03545    0.17564
CLVL5B        0.34432    0.15545    0.26469    0.24501    0.24808    0.33605    0.40083    1.00000   -0.01818    0.11639
DMQ266       -0.05251    0.12361    0.10973    0.10397    0.11050   -0.03139    0.03545   -0.01818    1.00000   -0.10798
DMQ243        0.27481    0.27009    0.28594    0.34357    0.22746    0.25808    0.17564    0.11639   -0.10798    1.00000
DMQ244        0.04594    0.29032    0.14219    0.23370    0.20226    0.09766    0.01152   -0.01652    0.15403    0.22857
DMQ236        0.03503    0.02523    0.09160    0.08414    0.02437    0.02242    0.11549    0.00529    0.09107    0.02999
DMQ249        0.15233    0.16621    0.21404    0.27072    0.17775    0.23212    0.18605    0.23366    0.06374    0.18179
DMQ267        0.04702    0.06183    0.12461    0.13272    0.07885    0.01047    0.05055    0.03081    0.25105   -0.02442
DMQ270        0.10084    0.09521    0.18458    0.12697    0.05085    0.04557    0.09025    0.01424    0.05781    0.15238
DMQ248        0.22008    0.08231    0.11385    0.17601    0.12856    0.12023    0.14836    0.10916   -0.05906    0.19614
DMQ265        0.08758    0.26908    0.21178    0.28010    0.10797    0.13579    0.13938    0.03952    0.10790    0.33432
DMQ235        0.04603    0.12011    0.15716    0.11046    0.08918    0.03501    0.09273    0.03838    0.10089    0.11126
DMQ269       -0.02103    0.06715    0.00239   -0.08947   -0.01691    0.03464    0.01971   -0.06484    0.16138   -0.07435
DMQ273        0.04492    0.13010    0.09891    0.00299    0.07171    0.00275    0.06991    0.08442   -0.03446    0.03729
DMQ241        0.06662    0.02370   -0.09934   -0.08992    0.03006    0.08625   -0.18006   -0.02476   -0.01408   -0.14170
DMQ274        0.03160    0.05967    0.01483   -0.09665   -0.00112    0.05282   -0.00567    0.01309    0.04704   -0.12468
DMQ267        0.03111    0.06547    0.00139   -0.15061    0.01876    0.01062    0.03996   -0.03081    0.09253   -0.02230
DMQ242       -0.23608   -0.10321   -0.14226   -0.15020   -0.11777   -0.16882   -0.13507   -0.10374   -0.04179   -0.24380
DMQ268       -0.01538    0.01585    0.02088   -0.06634   -0.07975   -0.03855    0.05619   -0.01054   -0.00026   -0.10060
DMQ271       -0.17938   -0.06390   -0.04896   -0.07587   -0.04070   -0.06530    0.00005   -0.01536   -0.15216   -0.13853
DMQ272       -0.20848    0.00719    0.01899    0.03686    0.08217   -0.01496   -0.07725   -0.14441    0.29112   -0.22411
DMQ280       -0.18788   -0.00028   -0.03292    0.06728   -0.05088   -0.07851   -0.04691   -0.04285    0.20094   -0.17329
DMQ246       -0.21389   -0.03945   -0.06613   -0.08080   -0.11558   -0.17133    0.00006   -0.12626    0.30312   -0.26485


              DMQ244     DMQ236     DMQ249     DMQ267     DMQ270     DMQ248     DMQ265     DMQ235     DMQ269     DMQ273

DMQ275        0.04594    0.03503    0.15233    0.04702    0.10084    0.22008    0.08758    0.04603   -0.02103    0.04492
DEFPR5A       0.29032    0.02523    0.16621    0.06183    0.09521    0.08231    0.26908    0.12011    0.06715    0.13010
DEFPR5B       0.14219    0.09160    0.21404    0.12461    0.18458    0.11385    0.21178    0.15716    0.00239    0.09891
ESTAP5A       0.23370    0.08414    0.27072    0.13272    0.12697    0.17601    0.28010    0.11046   -0.08947    0.00299
ESTAP5B       0.20226    0.02437    0.17775    0.07885    0.05085    0.12856    0.10797    0.08918   -0.01691    0.07171
ESTAP5C       0.09766    0.02242    0.23212    0.01047    0.04557    0.12023    0.13579    0.03501    0.03464    0.00275
CLVL5A        0.01152    0.11549    0.18605    0.05055    0.09025    0.14836    0.13938    0.09273    0.01971    0.06991
CLVL5B       -0.01652    0.00529    0.23366    0.03081    0.01424    0.10916    0.03952    0.03838   -0.06484    0.08442
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                08/09/78        PAGE  48

FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX



              DMQ244     DMQ236     DMQ249     DMQ267     DMQ270     DMQ248     DMQ265     DMQ235     DMQ269     DMQ273

DMQ266       0.15403    0.09107    0.06374    0.25105    0.05781   -0.05906    0.10790    0.10089    0.16138   -0.03446
DMQ243       0.22857    0.02999    0.18179   -0.02442    0.15238    0.19614    0.33432    0.11126   -0.07435    0.03729
DMQ244       1.00000    0.13983    0.19915    0.11709    0.07063    0.17983    0.58044   -0.03493    0.02741   -0.05717
DMQ236       0.13983    1.00000    0.40085    0.33160    0.20155    0.11162    0.21261    0.03406    0.05637    0.00108
DMQ249       0.19915    0.40085    1.00000    0.31118    0.22097    0.18224    0.21500   -0.08112   -0.00212   -0.02342
DMQ267       0.11709    0.33160    0.31118    1.00000    0.28702    0.08858    0.11589    0.18550    0.02113    0.04254
DMQ270       0.07063    0.20155    0.22097    0.28702    1.00000    0.07517    0.22379    0.17561    0.17884    0.05415
DMQ248       0.17983    0.11162    0.18224    0.08858    0.07517    1.00000    0.20144    0.12287    0.06291    0.00179
DMQ265       0.58044    0.21261    0.21500    0.11589    0.22379    0.20144    1.00000    0.03967   -0.01323   -0.00325
DMQ235      -0.03493    0.03406   -0.08112    0.18550    0.17561    0.12287    0.03967    1.00000    0.32272    0.32653
DMQ269       0.02741    0.05637   -0.00212    0.02113    0.17884    0.06291   -0.01323    0.32272    1.00000    0.37430
DMQ273      -0.05717    0.00108   -0.02342    0.04254    0.05415    0.00179   -0.00325    0.32653    0.37430    1.00000
DMQ241      -0.02969   -0.18267   -0.18246   -0.11577   -0.02955   -0.06817    0.00441   -0.02053    0.08670    0.06913
DMQ274      -0.01742   -0.09796   -0.11273    0.01997    0.01088   -0.10895   -0.05707    0.02247    0.02655    0.08446
DMQ287       0.00499   -0.03689   -0.03278    0.05923    0.04996   -0.15948    0.00112    0.09316    0.08295    0.21021
DMQ242       0.01548   -0.04647   -0.07514   -0.09518   -0.10545   -0.25376   -0.08358   -0.05621   -0.03625    0.13455
DMQ268       0.00364   -0.07257   -0.04107    0.13009   -0.01167   -0.05764   -0.02904    0.06157    0.01680    0.16485
DMQ271      -0.15063    0.00034   -0.09867   -0.06730   -0.03190   -0.21165   -0.13468   -0.01515    0.01311    0.20439
DMQ272       0.16159    0.26852    0.20009    0.14987   -0.06808   -0.04398    0.06141   -0.05695    0.08924   -0.06834
DMQ280       0.05966    0.15593    0.17101    0.12085    0.01641   -0.12318   -0.00394    0.05820    0.05965    0.01251
DMQ286      -0.06020    0.04075   -0.01218    0.10669   -0.03937   -0.20241   -0.01033    0.01188    0.00909   -0.07544



              DMQ241     DMQ274     DMQ287     DMQ242     DMQ268     DMQ271     DMQ272     DMQ280     DMQ286

DMQ275       0.06662    0.03160    0.03111   -0.23608   -0.01[illegible]   -0.17938   -0.20848   -0.18788   -0.21389
DEFPR5A      0.02370    0.05967    0.06547   -0.10321    0.01585   -0.06390    0.00719   -0.00028   -0.03945
DEFPR5B     -0.09934    0.01483    0.00139   -0.14226    0.02088   -0.04896    0.01899   -0.03292   -0.06613
ESTAP5A     -0.08992   -0.09665   -0.15061   -0.15020   -0.06634   -0.07587    0.03686    0.06728   -0.08080
ESTAP5B      0.03006   -0.00112    0.01876   -0.11777   -0.07975   -0.04070    0.08217   -0.05088   -0.11558
ESTAP5C      0.08625    0.05282    0.01062   -0.16882   -0.03855   -0.06530   -0.01496   -0.07851   -0.17133
CLVL5A      -0.18006   -0.00567    0.03996   -0.13507    0.05619    0.00005   -0.07725   -0.04691    0.00006
CLVL5B      -0.02476    0.01309   -0.03081   -0.10374   -0.01654   -0.01536   -0.14441   -0.04285   -0.12626
DMQ266      -0.01408    0.04704    0.09253   -0.04179   -0.00026   -0.15216    0.29112    0.20094    0.30312
DMQ243      -0.14170   -0.12468   -0.02230   -0.24380   -0.10060   -0.13853   -0.22411   -0.17329   -0.26485
DMQ244      -0.02969   -0.01742    0.00499    0.01548    0.00364   -0.15063    0.16159    0.05966   -0.06020
DMQ236      -0.18267   -0.09796   -0.03689   -0.04647   -0.07257    0.00034    0.26852    0.15593    0.04075
DMQ249      -0.18246   -0.11273   -0.03278   -0.07514   -0.04107   -0.09867    0.20009    0.17101   -0.01218
DMQ267      -0.11577    0.01997    0.05923   -0.09518    0.13009   -0.06730    0.14987    0.12085    0.10669
DMQ270      -0.02955    0.01088    0.04996   -0.10545    0.01167   -0.03190   -0.06808    0.01641   -0.03937
DMQ248      -0.06817   -0.10895   -0.15948   -0.25376   -0.05764   -0.21165   -0.04398   -0.12318   -0.20241
DMQ265       0.00441   -0.05707    0.00112   -0.08358   -0.02904   -0.13468    0.06141   -0.00394   -0.01033
DMQ235      -0.02053    0.02247    0.09316   -0.05621    0.06157   -0.01515   -0.05695    0.05820    0.01188
DMQ269       0.08670    0.02655    0.08295   -0.03625    0.01680    0.01311    0.08924    0.05965    0.00909
```

```
FILE    BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX



                  DMQ241      DMQ274      DMQ287      DMQ242      DMQ268      DMQ271      DMQ272      DMQ280      DMQ286

DMQ273           0.06913     0.08446     0.21021     0.13455     0.16485     0.20439    -0.06834     0.01251    -0.07544
DMQ241           1.00000     0.35937     0.29456     0.28440     0.15364     0.13036    -0.05265     0.00318    -0.05077
DMQ274           0.35937     1.00000     0.36938     0.12639     0.10138     0.17600    -0.01767     0.00790     0.07719
DMQ287           0.29456     0.36938     1.00000     0.17510     0.15311     0.14133     0.00062     0.05808     0.09602
DMQ242           0.28440     0.12639     0.17510     1.00000     0.27969     0.49688     0.09839     0.13625     0.10342
DMQ268           0.15364     0.10138     0.15311     0.27969     1.00000     0.29698     0.06408     0.11779     0.02843
DMQ271           0.13036     0.17600     0.14133     0.49688     0.29698     1.00000     0.01426     0.10927     0.05572
DMQ272          -0.05265    -0.01767     0.00062     0.09839     0.06408     0.01426     1.00000     0.37123     0.29070
DMQ280           0.00318     0.00790     0.05808     0.13625     0.11779     0.10927     0.37123     1.00000     0.30147
DMQ286          -0.05077     0.07719     0.09602     0.10342     0.02843     0.05572     0.29070     0.30147     1.00000

DETERMINANT OF CORRELATION MATRIX =  0.0007333( 0.73333737D-03)
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                        08/09/78        PAGE   50

FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX


VARIABLE    EST COMMUNALITY                      FACTOR          EIGENVALUE    PCT OF VAR    CUM PCT

DMQ275            0.30710                           1             4.33204         14.9         14.9
DEFPRSA           0.49760                           2             2.61157          9.0         23.9
DEFPRSB           0.45931                           3             2.40536          8.3         32.2
ESTAPSA           0.37267                           4             1.73999          6.0         38.2
ESTAPSB           0.50048                           5             1.56409          5.4         43.6
ESTAPSC           0.39514                           6             1.46992          5.1         48.7
CLVL5A            0.33100                           7             1.32293          4.6         53.3
CLVL5B            0.34041                           8             1.10797          3.8         57.1
DMQ266            0.27710                           9             1.02538          3.5         60.6
DMQ243            0.37727                          10             0.95330          3.3         63.9
DMQ244            0.45084                          11             0.84918          2.9         66.8
DMQ236            0.30750                          12             0.80031         2.8         69.6
DMQ249            0.39402                          13             0.77509          2.7         72.3
DMQ267            0.31921                          14             0.74806          2.6         74.8
DMQ270            0.23044                          15             0.67071          2.3         77.2
DMQ248            0.22165                          16             0.63209          2.2         79.3
DMQ265            0.47047                          17             0.61020          2.1         81.4
DMQ235            0.28055                          18             0.60748          2.1         83.5
DMQ269            0.32808                          19             0.58613          2.0         85.6
DMQ273            0.31189                          20             0.54537          1.9         87.4
DMQ241            0.35194                          21             0.52333          1.8         89.2
DMQ274            0.25327                          22             0.50388          1.7         91.0
DMQ287            0.26909                          23             0.46604          1.6         92.6
DMQ242            0.41713                          24             0.44138          1.5         94.1
DMQ268            0.21309                          25             0.41191          1.4         95.5
DMQ271            0.37446                          26             0.36494          1.3         96.8
DMQ272            0.36274                          27             0.33632          1.2         98.0
DMQ280            0.25939                          28             0.31159          1.1         99.1
DMQ286            0.27849                          29             0.26226          0.9        100.0

MORE THAN 25 ITERATIONS REQUIRED.
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                            08/09/78        PAGE  51

FILE    BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX

FACTOR MATRIX USING PRINCIPAL FACTOR WITH ITERATIONS



             FACTOR  1   FACTOR  2   FACTOR  3   FACTOR  4   FACTOR  5   FACTOR  6   FACTOR  7   FACTOR  8   FACTOR  9   FACTOR 10

DMQ275         0.43103    -0.26292     0.14149     0.11796    -0.02682     0.06868     0.25729    -0.00048     0.11986     0.07171
DEFPR5A        0.59473     0.10294     0.27945    -0.19597     0.02537    -0.21774    -0.12662     0.01229    -0.12511    -0.11522
DEFPR5B        0.63805     0.04324     0.20221    -0.01294    -0.18024    -0.06105    -0.06304     0.12682    -0.06444    -0.01362
ESTAP5A        0.60053     0.03941    -0.01144    -0.13886    -0.09493     0.00950    -0.13017     0.03447    -0.10974     0.21744
ESTAP5B        0.58704     0.02642     0.25414    -0.24368    -0.12538    -0.29699    -0.08954    -0.26887    -0.16735    -0.09176
ESTAP5C        0.54194    -0.11490     0.24019    -0.12486    -0.14744    -0.09014     0.07124    -0.16507     0.10355    -0.01027
CLVL5A         0.43502    -0.03304     0.12277     0.16338    -0.29512     0.12335    -0.01752     0.36452     0.19837    -0.01734
CLVL5B         0.40224    -0.16043     0.18264     0.05943    -0.32741     0.10174     0.10487     0.05585     0.19970     0.15070
DMQ266         0.11294     0.44389    -0.08500     0.00108     0.00602    -0.32941     0.11458     0.16189     0.00368     0.00288
DMQ243         0.52057    -0.25827    -0.01036    -0.00904     0.19775     0.14580    -0.10211     0.07800    -0.10607    -0.11998
DMQ244         0.40175     0.25675    -0.13654    -0.36124     0.46952     0.11478    -0.06709     0.06552     0.06375     0.06667
DMQ236         0.23691     0.35701    -0.27011     0.13008    -0.05874     0.23440     0.02574    -0.15387     0.10328    -0.16327
DMQ249         0.46313     0.26949    -0.22099     0.01124    -0.18489     0.27351     0.09443    -0.21957     0.18370    -0.12088
DMQ267         0.26174     0.48839    -0.16694     0.31528    -0.05597     0.15203     0.34167    -0.10987    -0.39802     0.11616
DMQ270         0.26849     0.16527    -0.01542     0.26251     0.14124     0.13875     0.08787    -0.01512    -0.09189    -0.12161
DMQ248         0.35021    -0.13162    -0.14343     0.13388     0.15447     0.06369     0.01316    -0.10613     0.10275     0.16515
DMQ265         0.47205     0.19188    -0.12703    -0.20682     0.44377     0.21023    -0.02709     0.21288     0.06873    -0.00155
DMQ235         0.17424     0.14920     0.20575     0.44097     0.14629    -0.13502    -0.15573     0.06491    -0.12386     0.12106
DMQ269         0.02913     0.24548     0.19987     0.46106     0.27177    -0.23478    -0.20586    -0.14245     0.28545    -0.01390
DMQ273         0.05745     0.13444     0.42185     0.35504     0.10852     0.04492    -0.24604    -0.04220     0.02886    -0.01077
DMQ241        -0.18016     0.04484     0.53254    -0.20800     0.25062    -0.02946     0.33905    -0.17069     0.12424     0.17322
DMQ274        -0.10601     0.12972     0.41976    -0.06511     0.05613    -0.03302     0.31663     0.07908     0.01527    -0.09431
DMQ287        -0.07853     0.23078     0.43556     0.02508     0.11511     0.01538     0.26338     0.12907     0.01689    -0.24337
DMQ242        -0.37329     0.28387     0.35497    -0.24508    -0.03844     0.30718    -0.17165    -0.04322    -0.01428     0.06680
DMQ268        -0.10874     0.21553     0.29494     0.00916    -0.04543     0.21604    -0.02870     0.05694    -0.07180     0.17828
DMQ271        -0.27196     0.19199     0.43034    -0.07428    -0.20132     0.35973    -0.26395    -0.03320    -0.08392    -0.04816
DMQ272        -0.01933     0.57128    -0.20232    -0.19006    -0.12704    -0.15678    -0.07076    -0.13628     0.17217     0.02877
DMQ280        -0.07462     0.49499    -0.06480    -0.06674    -0.15151    -0.03734    -0.07463     0.00485     0.09703     0.07916
DMQ286        -0.20192     0.44433    -0.10024    -0.05988    -0.17439    -0.21158     0.04275     0.28846     0.01551    -0.03912


             FACTOR 11

DMQ275        -0.01739
DEFPR5A       -0.06753
DEFPR5B        0.05930
ESTAP5A        0.27074
ESTAP5B       -0.14173
ESTAP5C        0.05712
CLVL5A        -0.13171
CLVL5B        -0.07712
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                  08/09/78        PAGE   52

FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX


                  FACTOR 11

DMQ266           -0.02134
DMQ243            0.14416
DMQ244           -0.20921
DMQ236            0.01286
DMQ249            0.05977
DMQ267           -0.13191
DMQ270            0.10466
DMQ248           -0.09208
DMQ265            0.04212
DMQ235            0.07376
DMQ269           -0.00258
DMQ273           -0.05867
DMQ241            0.16332
DMQ274            0.01464
DMQ287           -0.02462
DMQ242           -0.02111
DMQ268           -0.11759
DMQ271            0.02847
DMQ272           -0.02801
DMQ280            0.15998
DMQ286            0.07687
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                    08/09/78        PAGE   53

FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX



VARIABLE        COMMUNALITY                     FACTOR        EIGENVALUE   PCT OF VAR   CUM PCT

DMQ275            0.38030                          1            3.85466       27.8        27.8
DEFPR5A           0.57852                          2            2.07901       15.0        42.8
DEFPR5B           0.51416                          3            1.88553       13.6        56.4
ESTAP5A           0.54145                          4            1.24467        9.0        65.4
ESTAP5B           0.71003                          5            1.11554        8.0        73.4
ESTAP5C           0.45646                          6            0.96334        6.9        80.3
CLVL5A            0.52460                          7            0.81467        5.9        86.2
CLVL5B            0.42462                          8            0.61665        4.4        90.7
DMQ266            0.37224                          9            0.57138        4.1        94.8
DMQ243            0.46118                         10            0.38024        2.7        97.5
DMQ244            0.67116                         11            0.34385        2.5       100.0
DMQ236            0.39369
DMQ249            0.55412
DMQ267            0.77867
DMQ270            0.27303
DMQ248            0.26413
DMQ265            0.61567
DMQ235            0.39294
DMQ269            0.58700
DMQ273            0.40716
DMQ241            0.64121
DMQ274            0.32854
DMQ287            0.40937
DMQ242            0.53827
DMQ268            0.24892
DMQ271            0.55241
DMQ272            0.49932
DMQ280            0.33046
DMQ286            0.41973
```

```
FACTOR ANALYSIS OF DMQ ITEMS WITHIN SITUATIONS                                   08/09/78        PAGE   54

FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX

     VARIMAX ROTATED FACTOR MATRIX



             FACTOR  1   FACTOR  2   FACTOR  3   FACTOR  4   FACTOR  5   FACTOR  6   FACTOR  7   FACTOR  8   FACTOR  9   FACTOR 10

DMQ275         0.17578    -0.28973    -0.20804     0.04759     0.01995     0.09935     0.41690     0.07029     0.07458     0.15052
DEFPR5A        0.68908     0.03237    -0.02572     0.23348     0.11190     0.09129     0.11511    -0.01725     0.00753    -0.09679
DEFPR5B        0.53197     0.02482    -0.02992     0.10531     0.08579    -0.00416     0.37962     0.06922     0.06145    -0.08571
ESTAP5A        0.44731     0.06318    -0.02356     0.20172    -0.03011    -0.24919     0.23415     0.07243     0.06705     0.13770
ESTAP5B        0.62837    -0.02473    -0.05292     0.04322     0.02204     0.00066     0.04681     0.03708     0.05292     0.01527
ESTAP5C        0.53575    -0.11807    -0.09916     0.01248    -0.00734     0.05798     0.29350     0.12753    -0.07653     0.17965
CLVL5A         0.13302     0.01054     0.00601     0.06291     0.07726     0.00136     0.65715     0.07349    -0.01310    -0.23646
CLVL5B         0.21804    -0.10909     0.00844    -0.06307    -0.02575    -0.02691     0.58642     0.07161     0.01047     0.10150
DMQ266         0.09701     0.51872    -0.16177     0.11975     0.10212     0.09494     0.01512    -0.02185     0.18112    -0.01166
DMQ243         0.27359    -0.35592    -0.15541     0.29060     0.02756    -0.08642     0.12292     0.08562    -0.04305    -0.10628
DMQ244         0.19134     0.06816    -0.01622     0.77667    -0.03662    -0.03100    -0.05434     0.09819     0.04410     0.03086
DMQ236        -0.01190     0.13939    -0.01704     0.11819     0.04332    -0.08643     0.03164     0.57283     0.12320    -0.07837
DMQ249         0.17571     0.08089    -0.03985     0.12413    -0.07707    -0.10277     0.21378     0.65471     0.07470     0.04574
DMQ267         0.04024     0.16412    -0.01671     0.04349     0.07355     0.03729     0.02154     0.34468     0.78618    -0.02743
DMQ270         0.03121    -0.05743    -0.08753     0.10079     0.20627     0.09469     0.01354     0.29346     0.18439    -0.04384
DMQ248         0.06095    -0.19805    -0.21148     0.21754     0.12027    -0.20320     0.17293     0.11577     0.10092     0.13457
DMQ265         0.10379     0.00822    -0.06739     0.72324     0.00615     0.02009     0.06565     0.16809     0.00657    -0.01899
DMQ235         0.08174     0.02813    -0.01029    -0.00457     0.54704    -0.00790     0.05504    -0.08030     0.19728    -0.02635
DMQ269        -0.02250     0.10943    -0.07997     0.00946     0.72300     0.06582    -0.04958     0.09687    -0.10096     0.08202
DMQ273         0.07953    -0.09917     0.25590    -0.02624     0.55398     0.10394     0.06828     0.00325     0.01324    -0.04665
DMQ241         0.02866    -0.05220     0.16711     0.02636     0.02918     0.52043    -0.09439    -0.16101    -0.06814     0.54550
DMQ274         0.03209     0.04387     0.11395    -0.03886     0.01168     0.54121     0.03160    -0.08492     0.02953     0.09403
DMQ287         0.01567     0.05100     0.14003     0.01880     0.12338     0.60546     0.01156     0.01024     0.02922    -0.06034
DMQ242        -0.09647     0.10393     0.67042     0.01580    -0.03785     0.15361    -0.14843    -0.03387    -0.08755     0.08630
DMQ268        -0.04829     0.05165     0.42233     0.03474     0.00640     0.11346     0.09028    -0.06736     0.16300     0.05320
DMQ271        -0.01044    -0.01350     0.70525    -0.15479     0.04806     0.11163    -0.03773     0.03295    -0.08931    -0.06253
DMQ272         0.08168     0.58869     0.06674     0.07967    -0.02211    -0.08705    -0.13251     0.26047    -0.01455     0.07520
DMQ280        -0.02290     0.50402     0.17467    -0.00673     0.03488    -0.03085    -0.04858     0.17642    -0.00365     0.07613
DMQ286        -0.11438     0.59608     0.02785    -0.05841    -0.05139     0.11909    -0.03322    -0.03933     0.02278    -0.15650



             FACTOR 11

DMQ275         0.05172
DEFPR5A        0.06023
DEFPR5B        0.22617
ESTAP5A        0.30676
ESTAP5B       -0.10704
ESTAP5C        0.03923
CLVL5A         0.05914
CLVL5B        -0.01878
```

```
FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX



                    FACTOR 11

DMQ266             -0.01281
DMQ243              0.32744
DMQ244             -0.09283
DMQ236              0.00733
DMQ249              0.03446
DMQ267              0.05507
DMQ270              0.27778
DMQ248             -0.04229
DMQ265              0.20926
DMQ235              0.19218
DMQ269             -0.11048
DMQ273             -0.00986
DMQ241             -0.01704
DMQ274             -0.01091
DMQ287             -0.00470
DMQ242             -0.07158
DMQ268             -0.04380
DMQ271              0.04009
DMQ272             -0.10961
DMQ280              0.06227
DMQ286              0.05160



TRANSFORMATION MATRIX


                 FACTOR  1   FACTOR  2   FACTOR  3   FACTOR  4   FACTOR  5   FACTOR  6   FACTOR  7   FACTOR  8   FACTOR  9   FACTOR 10

FACTOR  1         0.64587    -0.11502    -0.26739     0.37338     0.09892    -0.12637     0.43689     0.28425     0.14313    -0.01238
FACTOR  2         0.02827     0.74279     0.29817     0.20685     0.21859     0.17939    -0.15612     0.36720     0.27507    -0.01743
FACTOR  3         0.33847    -0.18661     0.48909    -0.14538     0.33589     0.57282     0.17861    -0.27687    -0.10935     0.16924
FACTOR  4        -0.33564    -0.15687    -0.20528    -0.34897     0.70633    -0.05885     0.19465     0.16074     0.31467    -0.15716
FACTOR  5        -0.18144    -0.26157    -0.20843     0.67802     0.33499     0.20225    -0.44760    -0.13596    -0.01633     0.14590
FACTOR  6        -0.35833    -0.42118     0.56367     0.24511    -0.21192    -0.04240     0.19227     0.44025     0.10935    -0.02629
FACTOR  7        -0.17194    -0.02217    -0.38361    -0.08703    -0.37239     0.61312     0.16960     0.11843     0.40766     0.29888
FACTOR  8        -0.28104     0.25836    -0.03005     0.28213    -0.07877     0.16863     0.43348    -0.44893    -0.05136    -0.48811
FACTOR  9        -0.25689     0.16402    -0.14308     0.12090     0.16008     0.06236     0.41077     0.26313    -0.64935     0.28453
FACTOR 10        -0.13237     0.14320     0.15136     0.12204     0.05459    -0.41049     0.26129    -0.40683     0.32833     0.64109
FACTOR 11        -0.03812     0.12304    -0.07499    -0.19597    -0.00909     0.02847    -0.15478     0.13869    -0.28708     0.32354
```

```
               FACTOR 11

FACTOR  1       0.20161
FACTOR  2      -0.02501
FACTOR  3       0.01272
FACTOR  4       0.09484
FACTOR  5       0.04453
FACTOR  6       0.16201
FACTOR  7      -0.04797
FACTOR  8       0.32981
FACTOR  9      -0.31924
FACTOR 10       0.01006
FACTOR 11       0.84157
```

Appendix A_2

Factor Analysis of the Five Rational, Five Intuitive, Five Impulsive, Five Fatalistic, and Five Dependent Decision Style Scores Across the Career-Related and Non Career-Related Decision Situations

```
FACTOR ANALYSIS OF COMPOSITE DECISION STYLE                                          08/09/78        PAGE    2

  1.VARIABLE LIST

VARIABLES..       LABELS..

RAT1
INT1
IMP1
FAT1
DEP1
RAT2
INT2
IMP2
FAT2
DEP2
RAT3
INT3
IMP3
FAT3
DEP3
RAT4
INT4
IMP4
FAT4
DEP4
RAT5
INT5
IMP5
FAT5
DEP5
```

```
FACTOR ANALYSIS OF COMPOSITE DECISION STYLE                                         08/09/78       PAGE    3

FILE    BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX


VARIABLE              MEAN      STANDARD DEV      CASES

RAT1                1.5066            0.1811        188
INT1                1.4716            0.3773        188
IMP1                1.5709            0.3586        188
FAT1                1.5833            0.3133        188
DEP1                1.8156            0.2889        188
RAT2                1.6217            0.2150        188
INT2                1.3847            0.3733        188
IMP2                1.7198            0.3406        188
FAT2                1.7642            0.2894        188
DEP2                1.5195            0.4238        188
RAT3                1.5186            0.2163        188
INT3                1.4273            0.3465        188
IMP3                1.8457            0.2766        188
FAT3                1.7819            0.2742        188
DEP3                1.7216            0.3158        188
RAT4                1.5326            0.1892        188
INT4                1.3670            0.3439        188
IMP4                1.8103            0.2558        188
FAT4                1.8209            0.2766        188
DEP4                1.8457            0.2565        188
RAT5                1.4771            0.2018        188
INT5                1.4663            0.3150        188
IMP5                1.8706            0.2422        188
FAT5                1.8564            0.2627        188
DEP5                1.8138            0.2826        188
```

```
FACTOR ANALYSIS OF COMPOSITE DECISION STYLE                              08/09/78        PAGE    4

FILE    BREAKDOW (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX

CORRELATION COEFFICIENTS..


               RAT1       INT1       IMP1       FAT1       DEP1       RAT2       INT2       IMP2       FAT2       DEP2

RAT1        1.00000    0.22553   -0.20428   -0.06854   -0.01263    0.27996    0.11215   -0.10347   -0.02239   -0.10856
INT1        0.22553    1.00000   -0.07732    0.04771    0.06610    0.01220    0.19803    0.01640    0.09345    0.17245
IMP1       -0.20428   -0.07732    1.00000    0.43095    0.12109    0.03131    0.07681    0.11007    0.22218    0.10220
FAT1       -0.06854    0.04771    0.43095    1.00000    0.27569    0.02808    0.14847    0.04732    0.25404    0.16661
DEP1       -0.01263    0.06610    0.12109    0.27569    1.00000    0.01585    0.16536    0.02188    0.19507    0.16532
RAT2        0.27996    0.01220    0.03131    0.02808    0.01585    1.00000    0.16826   -0.28893   -0.06117    0.01394
INT2        0.11215    0.19803    0.07681    0.14847    0.16536    0.16826    1.00000   -0.15258    0.01931   -0.08723
IMP2       -0.10347    0.01640    0.11007    0.04732    0.02188   -0.28893   -0.15258    1.00000    0.32106    0.05038
FAT2       -0.02239    0.09345    0.22218    0.25404    0.19507   -0.06117    0.01931    0.32106    1.00000   -0.03739
DEP2       -0.10856    0.17245    0.10220    0.16661    0.16532    0.01394   -0.08723    0.05038   -0.03739    1.00000
RAT3        0.34507    0.13783   -0.08503   -0.04244    0.01402    0.32869    0.05315    0.02470   -0.04142    0.09140
INT3        0.20161    0.23173    0.13968    0.23117    0.07307    0.09421    0.19665    0.14868    0.22818    0.04605
IMP3       -0.05921    0.01187    0.16182    0.17995    0.25943   -0.12880    0.12886    0.15083    0.15208    0.05367
FAT3       -0.06775    0.21262    0.25787    0.32680    0.29232   -0.06781    0.21444    0.20138    0.30711    0.09559
DEP3       -0.15160    0.02554    0.12535    0.13061    0.26144    0.06283    0.12194    0.14948    0.07762    0.11836
RAT4        0.25191    0.07665   -0.07674   -0.00484    0.09277    0.22716    0.13430   -0.03399    0.04418    0.08811
INT4        0.06546    0.22937    0.25739    0.19155    0.20026    0.10363    0.13442    0.18744    0.27122    0.11968
IMP4        0.01158    0.08243    0.11193    0.15017    0.10323   -0.12305   -0.05290    0.11675    0.11517   -0.11635
FAT4       -0.12165    0.13027    0.26346    0.38227    0.24634   -0.05953    0.15279    0.12696    0.27890    0.09831
DEP4        0.11116    0.02507   -0.03224    0.14228    0.17545    0.07847    0.14522   -0.00744    0.06790    0.03047
RAT5        0.39750    0.08843   -0.11205   -0.00839    0.10164    0.32464    0.09831   -0.15834   -0.13609    0.04660
INT5        0.25039    0.29918    0.11318    0.01649    0.17932    0.01700    0.17384    0.18842    0.13722    0.00039
IMP5       -0.09350    0.06037    0.20556    0.14689    0.08194   -0.09689    0.06734    0.19942    0.14754    0.20708
FAT5       -0.00722    0.06946    0.27588    0.33751    0.25214    0.06579    0.16645    0.15243    0.31049    0.09730
DEP5       -0.03666   -0.04704    0.15742    0.16619    0.29071    0.06548   -0.05528    0.08512    0.18715    0.19667


               RAT3       INT3       IMP3       FAT3       DEP3       RAT4       INT4       IMP4       FAT4       DEP4

RAT1        0.34507    0.20161   -0.05921   -0.06775   -0.15160    0.25191    0.06546    0.01158   -0.12165    0.11116
INT1        0.13783    0.23173    0.01187    0.21262    0.02554    0.07665    0.22937    0.08243    0.13027    0.02507
IMP1       -0.08503    0.13968    0.16182    0.25787    0.12535   -0.07674    0.25739    0.11193    0.26346   -0.03224
FAT1       -0.04244    0.23117    0.17995    0.32680    0.13061   -0.00484    0.19155    0.15017    0.38227    0.14228
DEP1        0.01402    0.07307    0.25943    0.29232    0.26144    0.09277    0.20026    0.10323    0.24634    0.17545
RAT2        0.32869    0.09421   -0.12880   -0.06781    0.06283    0.22716    0.10363   -0.12305   -0.05953    0.07847
INT2        0.05315    0.19665    0.12886    0.21444    0.12194    0.13430    0.13442   -0.05290    0.15279    0.14522
IMP2        0.02470    0.14868    0.15083    0.20138    0.14948   -0.03399    0.18744    0.11675    0.12696   -0.00744
FAT2       -0.04142    0.22818    0.15208    0.30711    0.07762    0.04418    0.27122    0.11517    0.27890    0.06790
DEP2        0.09140    0.04605    0.05367    0.09559    0.11836    0.08811    0.11968   -0.11635    0.09831    0.03047
RAT3        1.00000    0.27549   -0.28344   -0.14625    0.00004    0.33558    0.01090   -0.11634   -0.18441    0.01480
INT3        0.27549    1.00000    0.04654    0.27304    0.14788   -0.08985    0.31230    0.08821    0.25085    0.05019
```

```
FACTOR ANALYSIS OF COMPOSITE DECISION STYLE                                  08/09/78        PAGE    5

FILE    BREAKDON (CREATION DATE = 07/30/78)    OF STYLE SCORES BY AGE AND SEX



                 RAT3        INT3        IMP3        FAT3        DEP3        RAT4        INT4        IMP4        FAT4        DEP4

IMP3          -0.28344     0.04654     1.00000     0.37692     0.22688     0.08228     0.23590     0.09681     0.28174     0.19897
FAT3          -0.14625     0.27306     0.37692     1.00000     0.26961     0.02574     0.34911     0.11887     0.48521     0.07687
DEP3           0.00004     0.14788     0.22688     0.26961     1.00000     0.07571     0.22336     0.11522     0.22886     0.16388
RAT4           0.33558    -0.08985     0.08228     0.02574     0.07571     1.00000     0.03687    -0.35454    -0.11872     0.07958
INT4           0.01090     0.31230     0.23590     0.34911     0.22336     0.03687     1.00000     0.08647     0.21349     0.09945
IMP4          -0.11634     0.08821     0.09681     0.11887     0.11522    -0.35454     0.08647     1.00000     0.27329     0.13149
FAT4          -0.18441     0.25085     0.28174     0.48521     0.22886    -0.11872     0.21349     0.27329     1.00000     0.17806
DEP4           0.01480     0.05019     0.19897     0.07687     0.16388     0.07958     0.09945     0.13149     0.17806     1.00000
RAT5           0.44805     0.17921    -0.11812    -0.09718     0.07132     0.28072     0.02905    -0.01323    -0.06606     0.11233
INT5           0.13034     0.25494     0.09332     0.21363     0.00962     0.01844     0.34770     0.15259     0.15863     0.17412
IMP5          -0.07154     0.02519     0.15306     0.19034     0.08585     0.03202     0.20233     0.10071     0.26439     0.07887
FAT5          -0.07351     0.12283     0.15159     0.33842     0.05272    -0.00362     0.13914     0.20281     0.42121     0.09285
DEP5          -0.04187     0.00963     0.04899     0.13285     0.22186    -0.02105     0.22988     0.08459     0.08821    -0.04560



                 RAT5        INT5        IMP5        FAT5        DEP5

RAT1           0.39750     0.25039    -0.09350    -0.00722    -0.03666
INT1           0.08843     0.29918     0.06037     0.06946    -0.04704
IMP1          -0.11205     0.11318     0.20556     0.27588     0.15742
FAT1          -0.00839     0.01649     0.14689     0.33751     0.16619
DEP1           0.10164     0.17932     0.08194     0.25214     0.29071
RAT2           0.32464     0.01700    -0.09689     0.06579     0.06548
INT2           0.09831     0.17384     0.06734     0.16645    -0.05528
IMP2          -0.15834     0.18842     0.19942     0.15243     0.08512
FAT2          -0.13609     0.13722     0.14754     0.31049     0.18715
DEP2           0.04660     0.00039     0.20708     0.09736     0.19667
RAT3           0.44805     0.13034    -0.07154    -0.07351    -0.04187
INT3           0.17921     0.25494     0.02519     0.12283     0.00963
IMP3          -0.11812     0.09332     0.15306     0.15159     0.04899
FAT3          -0.09718     0.21363     0.19034     0.33842     0.13285
DEP3           0.07132     0.00962     0.08585     0.05272     0.22186
RAT4           0.28072     0.01844     0.03202    -0.00362    -0.02105
INT4           0.02905     0.34770     0.20233     0.13914     0.22988
IMP4          -0.01323     0.15259     0.10071     0.20281     0.08459
FAT4          -0.06606     0.15863     0.26439     0.42121     0.08821
DEP4           0.11233     0.17412     0.07887     0.09285    -0.04560
RAT5           1.00000     0.17800    -0.16247    -0.07440     0.01259
INT5           0.17800     1.00000     0.13329     0.13134    -0.00084
IMP5          -0.16247     0.13329     1.00000     0.30429     0.12388
FAT5          -0.07440     0.13134     0.30429     1.00000     0.02236
DEP5           0.01259    -0.00084     0.12388     0.02236     1.00000

DETERMINANT OF CORRELATION MATRIX =  0.0030930( 0.30930268D-02)
```

```
FACTOR ANALYSIS OF COMPOSITE DECISION STYLE                                  08/09/78         PAGE    6

FILE    BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX


VARIABLE   EST COMMUNALITY                         FACTOR        EIGENVALUE   PCT OF VAR   CUM PCT

RAT1              0.37956                              1           4.17632       16.7        16.7
INT1              0.26699                              2           2.78855       11.2        27.9
IMP1              0.32633                              3           1.63866        6.6        34.4
FAT1              0.36510                              4           1.45960        5.8        40.3
DEP1              0.30575                              5           1.33902        5.4        45.6
RAT2              0.31926                              6           1.26717        5.1        50.7
INT2              0.23586                              7           1.12753        4.5        55.2
IMP2              0.31948                              8           1.11396        4.5        59.6
FAT2              0.31236                              9           0.98677        3.9        63.6
DEP2              0.24119                             10           0.93754        3.8        67.3
RAT3              0.45482                             11           0.84349        3.4        70.7
INT3              0.37933                             12           0.78345        3.1        73.8
IMP3              0.31483                             13           0.76013        3.0        76.9
FAT3              0.43278                             14           0.67972        2.7        79.6
DEP3              0.26951                             15           0.66655        2.7        82.3
RAT4              0.38982                             16           0.58479        2.3        84.6
INT4              0.34560                             17           0.53747        2.1        86.8
IMP4              0.29564                             18           0.49570        2.0        88.7
FAT4              0.42726                             19           0.48192        1.9        90.7
DEP4              0.17326                             20           0.45611        1.8        92.5
RAT5              0.37672                             21           0.42600        1.7        94.2
INT5              0.33261                             22           0.39480        1.6        95.8
IMP5              0.22833                             23           0.38310        1.5        97.3
FAT5              0.36287                             24           0.35948        1.4        98.8
DEP5              0.24997                             25           0.31194        1.2       100.0

MORE THAN 25 ITERATIONS REQUIRED.
```

```
FACTOR ANALYSIS OF COMPOSITE DECISION STYLE                          08/09/78       PAGE   7

FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX

FACTOR MATRIX USING PRINCIPAL FACTOR WITH ITERATIONS



              FACTOR  1  FACTOR  2  FACTOR  3  FACTOR  4  FACTOR  5  FACTOR  6  FACTOR  7  FACTOR  8  FACTOR  9  FACTOR 10

RAT1          -0.07619    0.61195   -0.23621   -0.07949   -0.04607   -0.03889    0.04917    0.13179   -0.14563   -0.03404
INT1           0.24316    0.34058   -0.28366    0.15373   -0.16712   -0.03179   -0.44471   -0.09255   -0.06873   -0.16889
IMP1           0.47751   -0.15497    0.14374    0.00560    0.37461   -0.15168    0.09143   -0.12677   -0.09264    0.30188
FAT1           0.54435   -0.01433    0.17187   -0.14955    0.29171   -0.09695   -0.02887    0.00781    0.06855   -0.02922
DEP1           0.47865    0.12566    0.27466   -0.13111   -0.11259    0.23635    0.02436    0.14995   -0.19511   -0.23638
RAT2          -0.04730    0.50353    0.20116   -0.21068    0.25386   -0.02067    0.05226   -0.06781   -0.08951    0.08313
INT2           0.24396    0.27117    0.00087   -0.29094   -0.09261   -0.13687   -0.09278   -0.21643    0.00332    0.00023
IMP2           0.32887   -0.16980   -0.19110    0.49382   -0.13293   -0.02412    0.29140    0.14935    0.16161    0.01867
FAT2           0.48741   -0.04713   -0.09055    0.16014    0.02485   -0.17772    0.27589    0.05363   -0.09072   -0.18208
DEP2           0.21849    0.07370    0.40347    0.38520    0.08427    0.12346   -0.49955    0.16510    0.10299    0.08793
RAT3          -0.12294    0.66955    0.00601    0.23453    0.22063    0.00147    0.11660    0.11150    0.18876   -0.03214
INT3           0.39982    0.34745   -0.31143    0.11374    0.23798    0.04463    0.02987   -0.27987    0.24129   -0.07959
IMP3           0.44240   -0.13151    0.10882   -0.12818   -0.36856    0.00767    0.05239   -0.08836    0.01487    0.08232
FAT3           0.66455   -0.02413   -0.00390   -0.02101   -0.13805   -0.08479   -0.03797   -0.19204    0.01891   -0.12640
DEP3           0.38332    0.04570    0.25911   -0.00298   -0.17429    0.37375    0.14810   -0.17997    0.24713   -0.02382
RAT4          -0.03222    0.51244    0.44048    0.10601   -0.33141   -0.33890    0.17211    0.05546    0.01774   -0.01847
INT4           0.52396    0.18107   -0.05842    0.17743   -0.04104    0.08633    0.04292   -0.20384   -0.20759    0.18187
IMP4           0.30826   -0.16108   -0.37095   -0.19476    0.12609    0.31247    0.03149    0.27657    0.00522   -0.01872
FAT4           0.63634   -0.11016   -0.05154   -0.17579    0.03096   -0.03522   -0.09679    0.02791    0.14609   -0.06846
DEP4           0.23760    0.17538    0.01157   -0.30572   -0.25066    0.14556    0.03015    0.22746    0.21015    0.25230
RAT5          -0.07404    0.62904    0.04059   -0.08782    0.09144    0.18785    0.05614    0.09364    0.05372    0.00641
INT5           0.35971    0.33150   -0.37734    0.09216   -0.15882    0.04030   -0.03184    0.07058   -0.20717    0.26349
IMP5           0.37040   -0.10861    0.05513    0.13385   -0.03665   -0.13104   -0.09716    0.16674   -0.00335    0.15946
FAT5           0.55174   -0.03553   -0.00152   -0.16657    0.15611   -0.35306   -0.05008    0.32596    0.02084   -0.10462
DEP5           0.27295   -0.02631    0.27183    0.17323    0.14180    0.31158    0.11326    0.02962   -0.31002   -0.09860



              FACTOR 11  FACTOR 12  FACTOR 13  FACTOR 14

RAT1          -0.03425    0.17438    0.06010   -0.17020
INT1           0.08916    0.05070    0.15214    0.20300
IMP1          -0.06139   -0.11378    0.17519    0.05951
FAT1          -0.23426    0.09349    0.15376    0.08320
DEP1          -0.20181   -0.23246   -0.10937    0.04619
RAT2           0.22683    0.11137   -0.11967   -0.01268
INT2           0.04420   -0.12643   -0.07691    0.09089
IMP2           0.01286   -0.04883   -0.00698   -0.02255
FAT2          -0.04781    0.18694   -0.08072    0.14939
DEP2          -0.06631    0.07212   -0.05148   -0.09033
RAT3          -0.00685   -0.12652    0.00645    0.08895
INT3          -0.13517    0.05301   -0.12675   -0.09463
```

```
FACTOR ANALYSIS OF COMPOSITE DECISION STYLE                                    08/09/78        PAGE   8

FILE   BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX



              FACTOR 11   FACTOR 12   FACTOR 13   FACTOR 14

IMP3          -0.09246     0.06446     0.07717    -0.19457
FAT3           0.01931    -0.02098     0.03360    -0.11703
DEP3           0.26232    -0.07192     0.63799     0.05754
RAT4           0.02968     0.01882     0.19238     0.02490
INT4           0.07305     0.10774    -0.05752    -0.00376
IMP4           0.12844     0.02672     0.24039     0.00975
FAT4           0.04870     0.02118     0.01518    -0.06785
DEP4          -0.11726     0.19547    -0.13620     0.18221
RAT5          -0.04506    -0.07317     0.10881    -0.12954
INT5          -0.05606    -0.21403    -0.05366     0.00532
IMP5           0.15586    -0.00193    -0.03480    -0.00247
FAT5           0.19254    -0.08660    -0.12816    -0.05487
DEP5           0.05931     0.12348    -0.01868    -0.00048



VARIABLE      COMMUNALITY                  FACTOR      EIGENVALUE   PCT OF VAR   CUM PCT

RAT1            0.55235                       1         3.71582       27.0        27.0
INT1            0.62261                       2         2.36660       17.2        44.3
IMP1            0.61114                       3         1.24470        9.1        53.3
FAT1            0.54355                       4         0.99818        7.3        60.6
DEP1            0.63194                       5         0.91282        6.6        67.2
RAT2            0.50610                       6         0.82825        6.0        73.3
INT2            0.33258                       7         0.74417        5.4        78.7
IMP2            0.57240                       8         0.65859        4.8        83.5
FAT2            0.49194                       9         0.53707        3.9        87.4
DEP2            0.70223                      10         0.47405        3.5        90.8
RAT3            0.65384                      11         0.37370        2.7        93.5
INT3            0.63900                      12         0.33312        2.4        96.0
IMP3            0.45125                      13         0.29673        2.2        98.1
FAT3            0.53921                      14         0.25647        1.9       100.0
DEP3            0.56977
RAT4            0.76580
INT4            0.49118
IMP4            0.56300
FAT4            0.49665
DEP4            0.52901
RAT5            0.50503
INT5            0.58721
IMP5            0.27666
FAT5            0.67078
DEP5            0.43494
```

```
FACTOR ANALYSIS OF COMPOSITE DECISION STYLE                                     0[illegible]/[illegible]9/78        PAGE    9

FILE    BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX

     VARIMAX ROTATED FACTOR MATRIX



               FACTOR  1   FACTOR  2   FACTOR  3   FACTOR  4   FACTOR  5   FACTOR  6   FACTOR  7   FACTOR  8   FACTOR  9   FACTOR 10

RAT1             0.60871    -0.17320    -0.09069     0.05970     0.01748    -0.12003     0.06225    -0.25289     0.12975     0.07951
INT1             0.11425    -0.05867    -0.01758     0.02604     0.03942     0.11288    -0.01065    -0.00637     0.18195     0.11979
IMP1            -0.11614     0.69345     0.01358     0.05706     0.03112     0.03897     0.01172     0.08215     0.18717     0.04167
FAT1             0.01273     0.57587    -0.01795     0.15194     0.08003     0.09252     0.10316    -0.00202    -0.13494     0.17964
DEP1             0.07021     0.09074    -0.02380     0.16635     0.01651     0.07505     0.22237     0.14015     0.09288     0.00003
RAT2             0.42611     0.04337    -0.42557    -0.16156    -0.15906    -0.04224     0.19744     0.10060     0.03034     0.06485
INT2             0.07919     0.09415    -0.28733     0.11415    -0.15330    -0.15498    -0.11101     0.13676     0.16647     0.14299
IMP2            -0.07639     0.00925     0.69707     0.05632     0.03037     0.02697     0.06866     0.11411     0.15794     0.10047
FAT2            -0.06305     0.18982     0.35666     0.07017    -0.05442    -0.18781     0.33847    -0.05337     0.00285     0.19211
DEP2             0.01604     0.07990     0.02422     0.00128    -0.10033     0.80385     0.11423     0.05497    -0.01430     0.01069
RAT3             0.64264     0.01679     0.10119    -0.38672    -0.17063     0.07453    -0.06596     0.08422     0.04803     0.15758
INT3             0.23230     0.14970     0.08916     0.03846     0.05984    -0.00342     0.01413     0.08347     0.14087     0.70414
IMP3            -0.11909     0.08991     0.07964     0.58909    -0.02298     0.00727     0.03696     0.13005     0.09537    -0.00237
FAT3            -0.09390     0.19135     0.08428     0.43996    -0.00557    -0.00236     0.09499     0.19376     0.11837     0.24532
DEP3             0.02411     0.05332     0.04422     0.16630     0.04237     0.05744     0.15593     0.69099    -0.00481     0.07727
RAT4             0.49557     0.03553     0.08161     0.15910    -0.59931    -0.00882    -0.00211     0.09428    -0.07393    -0.29451
INT4             0.04050     0.17420     0.06400     0.20614    -0.03419     0.04508     0.36810     0.14816     0.40820     0.21117
IMP4             0.00814     0.08705     0.10710     0.05547     0.69377    -0.10390     0.05403     0.07286     0.04683    -0.02819
FAT4            -0.10976     0.22805     0.02714     0.29610     0.21768     0.05165     0.01093     0.15544     0.01570     0.21304
DEP4             0.10008     0.00403    -0.03428     0.12114     0.06344     0.01486    -0.04163     0.08545     0.08542     0.00551
RAT5             0.65888    -0.02804    -0.14945    -0.05254     0.02846     0.05107    -0.03633     0.07218     0.06306     0.06324
INT5             0.19625     0.02503     0.12019     0.07137     0.10335    -0.02886    -0.01433    -0.05890     0.65959     0.10015
IMP5            -0.11676     0.12154     0.14799     0.08433     0.00327     0.19702     0.07212     0.06664     0.17356    -0.07855
FAT5             0.00468     0.17266     0.02608     0.06937     0.08687     0.01431     0.00214    -0.03372     0.03637     0.04613
DEP5             0.00781     0.10309     0.03503     0.02629     0.07606     0.14643     0.57721     0.13662     0.00767    -0.03494



               FACTOR 11   FACTOR 12   FACTOR 13   FACTOR 14

RAT1            -0.05963    -0.00731     0.15490     0.08202
INT1             0.01210     0.06218     0.73421    -0.01155
IMP1            -0.02402     0.18555    -0.11288    -0.08424
FAT1             0.18331     0.23757     0.06765     0.13281
DEP1             0.68528     0.15778     0.02308     0.10891
RAT2            -0.11151     0.11766    -0.06148     0.06369
INT2             0.12596     0.17082     0.19770     0.10493
IMP2            -0.03820     0.14232    -0.02931    -0.02004
FAT2             0.09298     0.30492     0.12762     0.09651
DEP2             0.07016     0.08187     0.10230     0.01649
RAT3             0.02662    -0.04562     0.06844    -0.00626
INT3            -0.00610     0.06756     0.14882     0.00481
```

```
                FACTOR 11   FACTOR 12   FACTOR 13   FACTOR 14

IMP3             0.10527     0.10349    -0.00803     0.16057
FAT3             0.15724     0.31909     0.21168    -0.03075
DEP3             0.11014     0.02798     0.00417     0.10451
RAT4             0.02665     0.05900     0.13060     0.07328
INT4            -0.03806     0.09485     0.16472     0.05615
IMP4             0.02530     0.14676     0.07563     0.09785
FAT4             0.11693     0.42767     0.11854     0.11649
DEP4             0.07350     0.07058    -0.00529     0.68710
RAT5             0.10841    -0.11442    -0.00492     0.04721
INT5             0.11169     0.08793     0.19284     0.10412
IMP5            -0.05957     0.35288     0.04691     0.06476
FAT5             0.12390     0.77900     0.01044     0.02841
DEP5             0.18203     0.00128    -0.05584    -0.07577



TRANSFORMATION MATRIX


                FACTOR  1   FACTOR  2   FACTOR  3   FACTOR  4   FACTOR  5   FACTOR  6   FACTOR  7   FACTOR  8   FACTOR  9   FACTOR 10

FACTOR  1       -0.06290     0.40600     0.18405     0.37757     0.14192     0.09331     0.24957     0.23746     0.25124     0.27500
FACTOR  2        0.84623    -0.06692    -0.18955    -0.10864    -0.24971     0.01344     0.02202     0.04040     0.21278     0.17948
FACTOR  3        0.02765     0.21282    -0.21958     0.08590    -0.50145     0.38269     0.22951     0.29634    -0.34246    -0.34240
FACTOR  4       -0.01075    -0.06850     0.66789    -0.20751    -0.25048     0.42300     0.22815     0.01104     0.15805     0.07882
FACTOR  5        0.11909     0.49261    -0.21071    -0.51719     0.27939     0.10947     0.15282    -0.12171    -0.17370     0.31245
FACTOR  [illegible]        0.03964    -0.22186    -0.06295    -0.03351     0.54294     0.21480     0.29451     0.41201     0.06470     0.06626
FACTOR  7        0.21975     0.09440     0.42051     0.00837    -0.10530    -0.63971     0.24597     0.17220    -0.03967    -0.00471
FACTOR  8        0.25310    -0.15716     0.30434    -0.21535     0.32452     0.23322    -0.02697    -0.29854    -0.07997    -0.45422
FACTOR  9        0.06810    -0.00600     0.24682    -0.03947     0.00592     0.17939    -0.57813     0.40913    -0.39098     0.34322
FACTOR 10       -0.03357     0.30584    -0.08161     0.01304    -0.02716     0.19894    -0.13225     0.01537     0.59032    -0.19500
FACTOR 11        0.01143    -0.30121    -0.15986    -0.15535     0.10323    -0.10496     0.16965     0.53030     0.05929    -0.25795
FACTOR 12        0.01773    -0.06124    -0.02143     0.20647     0.01972     0.05930     0.50293    -0.26749    -0.39502     0.14136
FACTOR 13        0.27981     0.44936     0.14564     0.28496     0.29364    -0.06025    -0.15262     0.07343    -0.21324    -0.43456
FACTOR 14       -0.25777     0.25535     0.05707    -0.57483    -0.12651    -0.23247     0.06655     0.15773    -0.02490    -0.17072
FACTOR ANALYSIS OF COMPOSITE DECISION STYLE                                 08/09/78        PAGE  11

FILE    BREAKDOW (CREATION DATE = 07/30/78)   OF STYLE SCORES BY AGE AND SEX


                  FACTOR 11   FACTOR 12   FACTOR 13   FACTOR 14

FACTOR  1           0.24287     0.49590     0.19746     0.15681
FACTOR  2           0.06271    -0.02936     0.25966     0.13156
FACTOR  3           0.22568     0.01486    -0.27191     0.02809
FACTOR  4          -0.16096    -0.15863     0.13957    -0.33232
FACTOR  5          -0.11806     0.12705    -0.24548    -0.29136
FACTOR  6           0.24710    -0.49646    -0.10855     0.13712
FACTOR  7          -0.00133    -0.06411    -0.49658     0.05574
FACTOR  8           0.18961     0.39905    -0.15761     0.29985
FACTOR  9          -0.19116     0.05738    -0.08645     0.28465
FACTOR 10          -0.45810    -0.15123    -0.32242     0.34243
FACTOR 11          -0.45642     0.43742     0.10941    -0.21465
FACTOR 12          -0.50288    -0.05859     0.14295     0.41430
FACTOR 13          -0.16045    -0.25809     0.32916    -0.25257
FACTOR 14           0.12619    -0.12963     0.45220     0.41328
```

APPENDIX B

THE CAREER DECISION SIMULATION (CDS)
ADMINISTRATOR'S MANUAL

THE CAREER DECISION SIMULATION (CDS)

Administrator's Manual

School of Education
Stanford University

Index

Page 1 . . . . . . Introduction

3 . . . . . . Checklist of Administrator's Duties (sequential)

5 . . . . . . Inventory of CDS Materials

7 . . . . . . Room Arrangement Diagram

8 . . . . . . Diagram of Table Layout for the Career Decision Simulation

9 . . . . . . General Introduction Guidelines

10 . . . . . . Simulation Rules

11 . . . . . . Anticipated Questions and Suggested Answers

12 . . . . . . Scoring Rules

15 . . . . . . How to Score the Performance

16-110 . . . . Scoring Key

. . . . . . Behavioral Observation Checklist Forms

Introduction

You are about to perform a crucial task as part of a research project that is designed to assess how well people make career-related decisions. Your job as Administrator for the Career Decision Simulation (CDS) exercise requires careful preparation and attention to details, since the CDS is our primary measure of career decision-making effectiveness.

Each subject's score on the CDS will be compared to the scores of a large number of other subjects. Thus, it is essential that each administration be done as uniformly as possible. This means setting up the materials in the same arrangement each time, making sure none of the simulation rules are violated, answering any questions consistently and only as specified in this Manual, and keeping track of the two hour time limit.

Your job will be a busy one. In addition to marking the occurrence of certain subject behaviors on the Behavioral Observation Checklist (located in the back of this Manual), you must be sure that each subject follows all of the simulation rules. Since you will often be responsible for administering the CDS to two subjects at any given time, your familiarity with the CDS rules and set-up is essential.

Remember, we are interested in discovering the procedures used by people to make career decisions. One of the most important means we have for uncovering these procedures is to record the order in which people use pieces of information. Therefore, it is very important to keep all of the cards used by each subject in the exact sequence in which they were placed into the Card Return Box. This point will be emphasized again when you read the section of the Manual called How to Score the Performance.

Finally, it is suggested that each Administrator spend at least two hours playing the CDS before administering it to any subjects. This gives one a good appreciation of how it feels and looks from the subject's point of view, and is really the best way to learn what the CDS is all about.

Checklist of Administrator's Duties

- Before Subject(S) Enters -

1) Check physical set-up: e.g., screen between S's (if available), chair for each S and Administrator, two 3' x 6' tables with S's back-to-back, small table for cassette holders, etc. (see Diagram, Page 7).
2) Check simulation materials against the inventory listed on pages 5 and 6.
3) Set up materials according to Diagram, Page 8.
4) Check cassette player for proper functioning and volume level; also check headsets.
5) Put new card decks into boxes.
6) Check to make sure there is sufficient light.
7) Make sure sufficient money is available for S's payment.
8) Know location of restrooms, smoking rules, etc.

- With Subject -

1) Go over Introduction Guidelines.
2) Have Behaviorial Observation Checklist ready to use.
3) Be sure S places "Start Here" card in Card Return box properly.
4) Be prepared to show S how to use cassette player.
5) Make sure S follows all simulation rules
6) Continue coding behavior.
7) Watch the clock to make sure 2 hr. time limit observed; inform S when only 15 minutes are left.

Checklist of Administrator's Duties (Continued)

- After S has placed the Job Decision card in the Card Return box -

1) Thank Subject.

2) Explain that the exercise is over.

3) Pull deck of cards from Card Return box, count colored cards; put rubber band around entire deck and label; make sure exact sequence of cards is retained.

4) Score S's performance using the Scoring Key (see pages 15 and 16-110).

5) Pay S and have S sign receipt list.

6) Answer S's questions.

7) Retain S's notes and label them with S's name and today's date.

- Setting Up for Next S -

1) Pull unused cards from boxes, rubber-band, and label with S's name, college, and today's date.

2) Return Pegs to boxes and Job Strips to their containers.

3) Recycle through the Checklist of Administrator's Duties in preparation for the next S to use that table and CDS.

Inventory of Career Decision Simulation (CDS) Materials

- 1 Personal Work Values Rating Form
- 12 Job Strips
- 111 Blue High ("H") Pegs
- 111 Red Medium ("M") Pegs
- 111 Yellow Low ("L") Pegs
- 3 Peg Boxes
- 1 Job Strip Holder
- 9 Job Information Card Boxes
    - Book or Magazine
    - Career Handbook
    - Career Speaker
    - A Friend
    - Horoscope
    - Newspaper Ad
    - Personal Experience
    - Radio or TV
    - Worker Interview

Each containing:
- 12 index tabs = 12 jobs arranged alphabetically
- 36 3x5 cards/box; 3 cards/job

- 1 Value Definition Card Box (containing 9 cards)
- 1 Scoring Rules Card Box (containing 6 cards)
- 1 Card Return Box
- 109 Cassettes
- 2 Cassette holders:
    - 1 holds 72 cassettes (large)
    - 1 holds 48 cassettes (small)

Inventory of CDS Materials (Continued)

- 1 Cassette player
- 1 Set of headphones
- 1 "Start Here" card
- 1 "Name" card
- 1 "Job Decision" card
- 12 Job Strip cards (to be placed in Job Strip Holder)
- Pencils for S and Administrator
- Notepad
- Some kind of timepiece
- Supply of rubber bands
- Label cards for Administrator to label stack of used & unused cards
- Behavioral Observation Checklist Forms (included in Administrator's Manual)
- 1 Administrator's Manual

ROOM ARRANGEMENT DIAGRAM

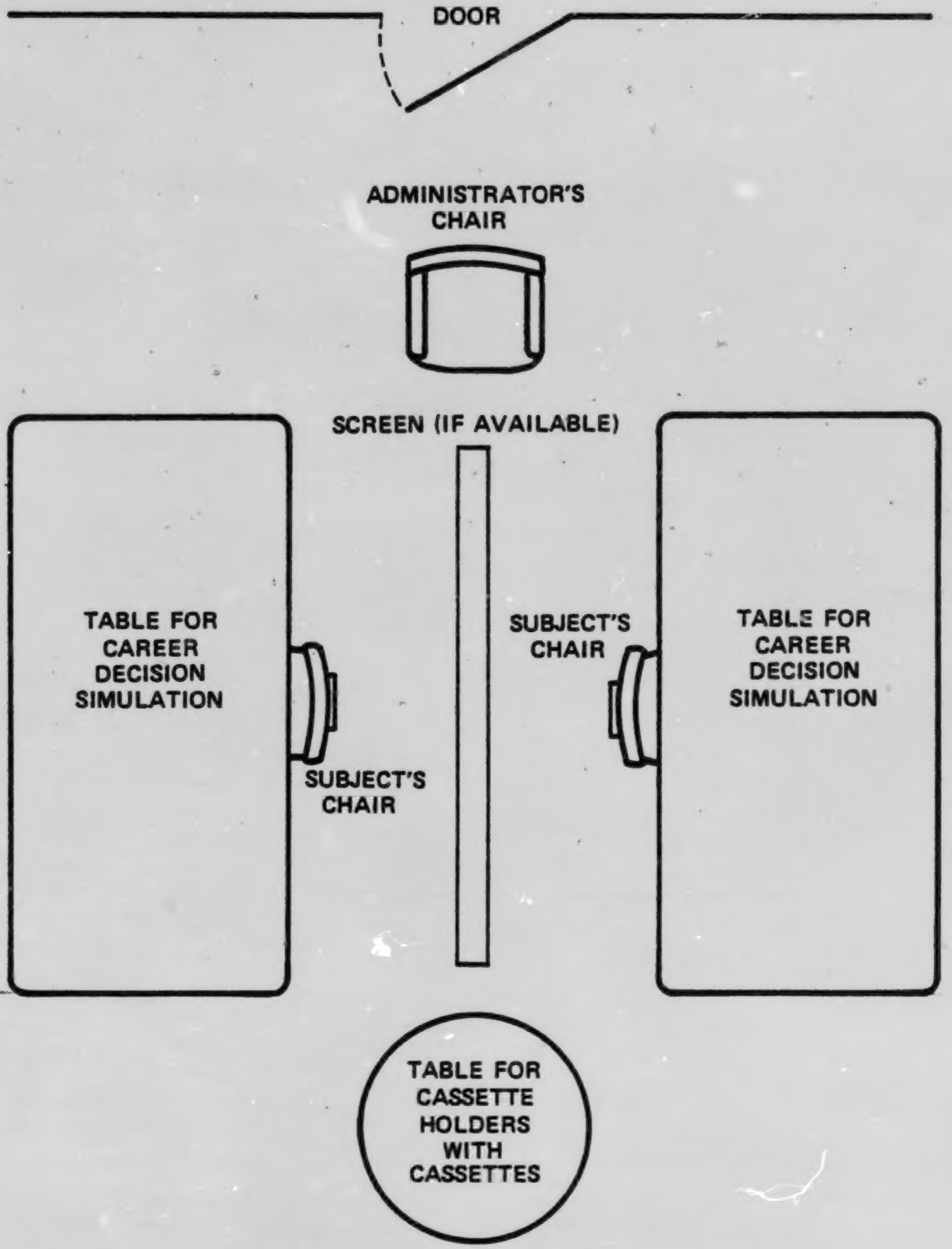
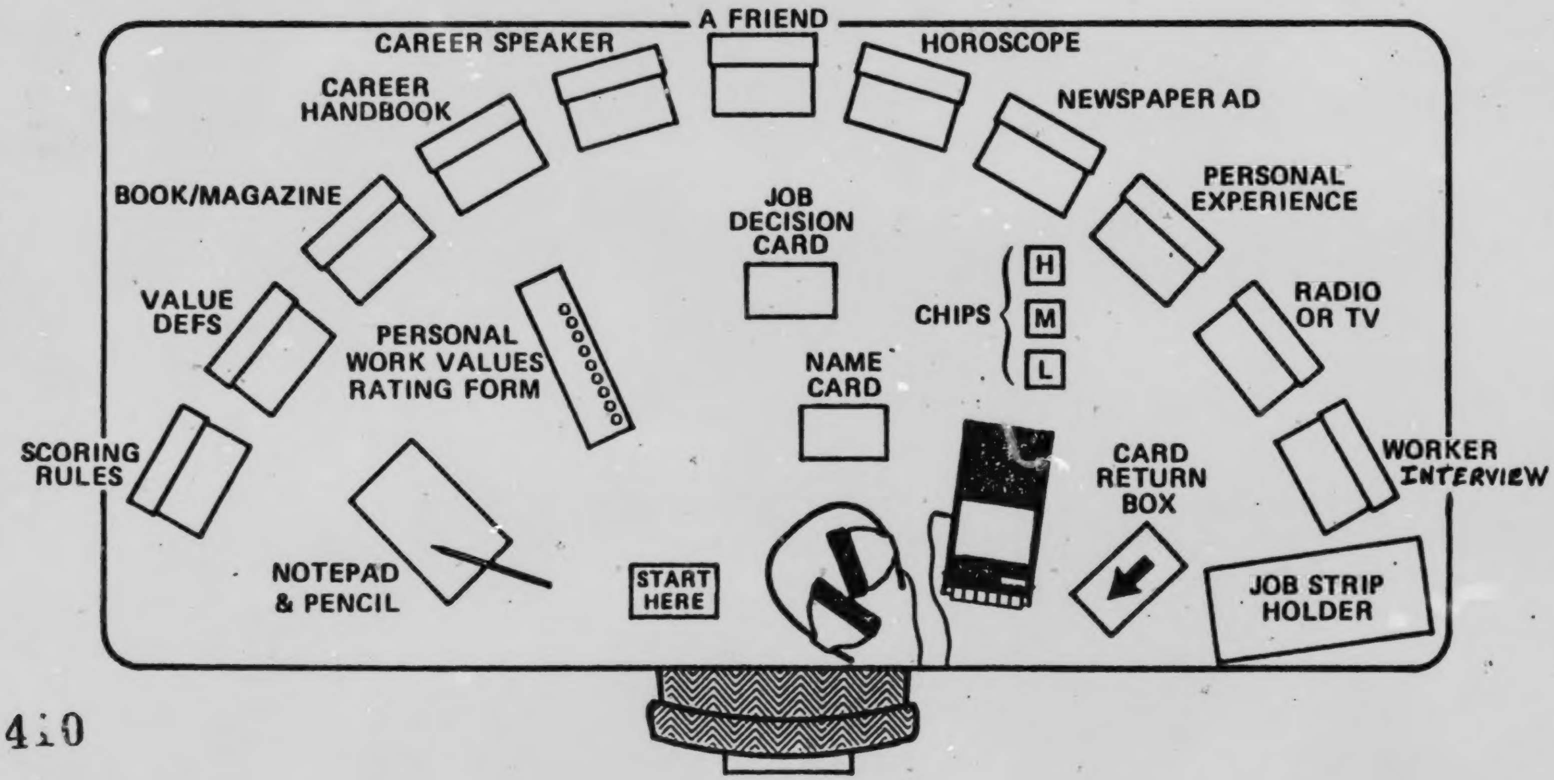

DOOR
ADMINISTRATOR'S CHAIR
SCREEN (IF AVAILABLE)
TABLE FOR CAREER DECISION SIMULATION
SUBJECT'S CHAIR
SUBJECT'S CHAIR
TABLE FOR CAREER DECISION SIMULATION
TABLE FOR CASSETTE HOLDERS WITH CASSETTES

TABLE LAYOUT FOR CAREER DECISION SIMULATION


A FRIEND
CAREER SPEAKER
HOROSCOPE
CAREER HANDBOOK
NEWSPAPER AD
BOOK/MAGAZINE
PERSONAL EXPERIENCE
JOB DECISION CARD
H
CHIPS
M
L
VALUE DEFS
PERSONAL WORK VALUES RATING FORM
RADIO OR TV
NAME CARD
SCORING RULES
CARD RETURN BOX
WORKER INTERVIEW
NOTEPAD & PENCIL
START HERE
JOB STRIP HOLDER

General Introduction Guidelines

Hello, I'm....

Please be seated. We're happy that you're able to participate in this research.

First, let me tell you something about what we're trying to do. Our main purpose is to learn more about the ways that people make decisions about the jobs and careers they select.

Because of the difficult nature of the task, we're attempting to use a simulation model to get some information. That is what all of these things on the table are for.

We don't have any hidden agenda or tricks up our sleeve. There are no "plants" or "confederates" involved, or any surprise endings. In fact, you'll be working alone and independently throughout. We're merely interested in the way in which you go about making your decisions and coming to your eventual conclusion. We'll study that by looking at which cards you use and the order in which you use them.

I'll be functioning as the "administrator" during your involvement.

Very shortly you'll be hearing specific instructions on exactly what to do. Right now I want you to read the "Start Here" card in front of you.

Simulation Rules

1) S must read "Start Here" card, fill out "Name" card, listen to and follow DIRECTIONS tape, and fill out final "Job Decision" card.
2) S must place each card in the Card Return Box (by placing thumb on dot) prior to selecting or reading any other card. Thus, only one card may be read at any given time.
3) S must assign 3 H, 3 M, and 3 L Pegs on the Personal Work Values Rating Form.
4) S may not change the Personal Work Values Rating Form Pegs after end of the DIRECTIONS tape.
5) S must rewind and return all tapes used to the Cassette Holder.
6) S must read any card picked before placing it in the Card Return Box.
7) S is not permitted to open the Card Return Box.
8) S may wear earphones throughout the session.
9) S must read at least one card pertaining to a job before using its Job Strip.
10) S must complete the simulation within 2 hours.
11) S's participation ends after completing the "Job Decision" card.
12) S's may survey or "flip through" the label sides (front) of cards as much as they wish, as long as they do not read the information (back) sides of cards.
13) S may change value ratings on Job Strips at any time.
14) S may move card boxes if desired.

Anticipated Questions and Suggested Answers

Try to make a distinction between procedural questions and substantive questions which ask for advice on how to actually make decisions in which we are interested. You may answer procedural questions such as:

- Q: Can I move these boxes around?
  A: Yes.

- Q: Can I take as many Job Strips as I want?
  A: Yes, but only after reading an information card which refers to the job for that Job Strip.

- Q: What do I do now? (immediately after DIRECTIONS tape).
  A: You should begin picking and reading any of the cards, one at a time, in any order you wish.

- Q: Can I pull any cards I want?
  A: Yes, but you must read any card you pull and place it in the Card Return Box before selecting another one.

- Q: Can I move these Job Strips around?
  A: Yes.

- Q: What's the note pad for?
  A: You may use this pad for recording information and making any notes that seem helpful.

- Q: What happens if I don't finish in time?
  A: If you haven't selected a job at the end of 2 hours, you will be required to choose one at this time.

Remember, such questions should be answered as explicitly and succinctly as possible.

You may not answer substantive questions such as:

1) How much time should I take on each card? (B)
2) Which boxes should I use? (B)
3) Which Job Strips should I use? (B)
4) What's a Career Handbook? (A)
5) Should I take my time? (B)
6) Should I rate this value for Splacker high? (B)

The administrator cannot directly answer these questions. Subjects should be given these two answers: (A) "You can find the answer to that question by using the materials in front of you." (B) "That's your decision."

Answer all "Is it better..." questions with response (B).

Scoring Rules

These 6 questions and answers correspond to the 6 "Scoring Rules" cards available for use by the S's in the Scoring Rules card box.

Q: Why is the scoring system set up the way it is?

A: In real life, you will be happiest if you can find a job which matches what you want. If you can't get everything you want, you will be happier if you find a job which satisfies your more important values. Similarly, the scoring rules in this game reward you with more points the more closely your Career Decision matches your higher ratings on the Personal Work Values Rating Form.

But it takes time, effort and money to find out about all the thousands of occupations in real life. So in this game, the more information you use, the more it costs you.

Q: How many points do I earn when my Career Decision is compared with my values?

A: Each of your 9 ratings on your Personal Work Values Rating Form will be compared with the real level (high, medium or low) of the job you have chosen.

Number of Points Each of Your Values will Earn

If your personal work value is	When the real level of your Career Decision on that value is		
	High (H)	Medium (M)	Low (L)
High (H)	60	20	0
Medium (M)	30	40	5
Low (L)	10	15	20

Scoring Rules (Continued)

Q: How much does it cost for information:

A: Each card that you read costs you one point. That includes information cards about each occupation, including the cards directing you to play a tape. One point will be subtracted for each of these cards that you use.

You will be charged only for cards that describe particular jobs. You will not be charged for using any other cards such as "Value Definition" cards, "Scoring Rules" cards, "Job Strip" cards, the "Start Here" card, the "Name" card, or the final "Job Decision" card.

Q: How, for example, would a given person's score be determined?

Values	Suppose Ms. X had made these ratings	Suppose Ms. X had chosen the job of "Lawender" which had these real levels on each value	She would then receive these points
Early Entry	H	H	60
Helping Others	M	L	5
Income	L	H	10
Independence	H	M	20
Leadership	L	M	15
Leisure	M	M	40
Prestige	M	H	30
Security	L	L	20
Variety	H	L	0
		Sub-Total	200
If Ms. X used 54 cards, we subtract			-54
		Grand Total	146

Q: What is the maximum possible amount that I could earn?

A: If you picked the perfect job for you, all values would match exactly and you could earn 360 points. If you made that decision without reading any cards, no points would be subtracted. In that case you would receive

$3.00	Base pay
+3.60	Bonus
$6.60	maximum possible pay

Scoring Rules (Continued)

Q: How much will I be paid for participating in this simulation game?

A: You will be paid a base of $3.00 no matter what your score. In addition, you will earn a one-cent bonus for each point in your grand total So if your grand total was 146, you would earn

$ 3.00	Base pay
+1.46	Bonus
$ 4.46	Total you would receive

How to Score the Performance

Each performance on the Career Decision Simulation must be scored immediately after the participant completes the "Job Decision" card so that participants can be paid before they depart. Here are the steps to take.

1) Briefly explain to the participant what you are about to do.
2) Open the Card Return Box and carefully remove cards, ensuring that the order of cards is not disturbed.
3) Note the decision made by the participant (e.g. Kralician, Tasindic, etc.)
4) Without changing the order of the cards, count and note the number of non-white cards found in the Card Return Box deck.
5) Carefully wrap the deck, label it with S's name, college, and today's date, and secure it so that it can be submitted for data processing.
6) Note the Personal Work Values rated by the participant, and convert them to the appropriate numbers (i.e., H = 3, M = 2, L = 1).
7) Using the Scoring Key find the corresponding sequence of value ratings (e.g. 312/213/123) and note the 3 digit number across from the job chosen by the S.
8) Subtract the number of non-white cards used by the participant (#4 above). This number represents the Grant Total points scored by the participant.
9) Add the Grant Total points (in pennies) to the $3.00 base payment. This figure represents the amount you pay to the participant.
10) Pay the participant.
11) Make sure to get the participant's

    1) Name
    2) Signature
    3) Amount paid
    4) Social Security Number
    5) Home address
    6) College

    and place this information on the appropriate form.
12) Thank the participant and move on.

BEHAVIORAL OBSERVATION CHECKLIST

Name ____________________ Date __________ School __________

Questions Asked:

Number of Job Strip Rearrangements

__________ (tallies) = __________ (number)

Other significant behavior, e.g., inadvertent violation of rules, unusual problems, subject's handicaps, inability to follow standard procedures in administering simulation:

APPENDIX C

CURRICULUM FOR TEACHING RATIONAL DECISION-MAKING SKILLS

(Experimental Treatment)

Instructor's Guide for Decision-Making Training

ID Introduction and Rationale

1.1 The instructor should begin by making it clear to the students why decision-making skills are important to learn. The explanation might sound something like the following.

1.2 Today we are going to work on developing your decision-making skills. You may never have thought of decision making as a skill, but it is. Every day you make hundreds of decisions. Many decisions are so trivial or unimportant that we may make them quickly without thinking much about it. We rarely spend much time thinking about what to eat for breakfast or how to spend the next hour. But sometimes you are faced with a more serious problem. You must make a decision and the decision you make is going to effect your future. It is easy to make those trivial or unimportant decisions, but it is often extremely difficult for many people to make the big decisions in their lives such as whether or not to get married, whether or not to accept a particular job offer, where to live, or what kind of a career to choose.

1.3 How can we make these big decisions wisely? We might begin by considering how businesses go about making decisions. Usually they begin by describing what needs to be done. For example, suppose a corporation wants to decide where to locate a new factory. How do they decide? Do they put a map on the wall and throw a dart at it? Obviously they don't. Instead they use a systematic method that helps them to make the decision. They identify what is important to them like the cost of labor in different areas, the tax rates, the location of raw materials, and the availability of transportation. They gather information about these factors for each of the various locations that are being considered. Once they have the information they can compare location A with location B to determine which could be the better site. Based on the gathered information location A may be the better site because it has lower tax rates than B, or the location of transportation and raw materials is closer. Businesses spend the time and effort that is needed to work through a systematic decision-making procedure because the consequences are so serious. If the factory is located in the wrong spot, the company could go bankrupt."

1.4 "Now, let's think of a decision that you have made. Do you remember the last time that you purchased a pair of shoes? Buying shoes may have been a relatively unimportant decision for you. But think for a moment. How much time and effort did you put into the process of deciding which shoes to buy? Did you have some idea of the style of shoes that you wanted to buy? How many different stores did you go to? How many different pairs of shoes did you try on before you eventually decided which pair to buy? And how much time did you spend shopping? Was it half an hour, an hour, three hours? Just think, if you were willing to spend that amount of time making a decision about a pair of shoes, how much time should you be willing to spend to make a very important decision like deciding on a future career.

1.5 Your choice of an occupation is likely to have a big influence on how much money you make, the kinds of friends you will have, the kind of person you are likely to marry, the neighborhood you will live in, the kind of car you will drive, and the amount of free time you will enjoy. Choosing a career is not just one decision but is a whole series of choices that you make and each one affects the next choice. For instance, your decision to attend college and the kinds of classes you decide to take will affect the kinds of jobs that you will choose in the future.

1.6 You may be saying to yourself at this point something like: 'Yes, decision making seems important but it also seems so complex that I don't even know how to begin.'"

1.7 "Well, today I'm going to teach you a way to make decisions. It is not the only way but I think you will find it useful and easy to remember.

1.8 It consists of seven steps. When I put together the first letter of each step in the model it spells the acronym DECIDES. Now, I am going to give you a handout of the DECIDES model so that you can follow along as I explain what each step means. (INSTRUCTOR PASSES OUT THE DECIDES MODEL HANDOUT #1).

1.9 Because I only have a small amount of time I have chosen a relatively trivial decision situation to show you how the DECIDES model works, not that I would go into all this detail for this decision in real life. Suppose my problem is that I want to spend this evening reading a book but I haven't yet decided which book to read. Let's see how I would make a decision by following the DECIDES model.

1.10 Define the problem

Notice that the first step in the model is to define the problem. Basically, a problem is defined when you can describe exactly what must be accomplished and the date or time by which it must be done. For example, I might define my problem as, Choosing a book to read within the next ten minutes. I have stated what I want to accomplish, choosing a book, and the time by which it must be done, ten minutes from now. Let's take a look at the next step, establishing an action plan.

1.11 Establish an action plan

An action plan is established when you have described the steps you plan to follow in making your decision and what you will do to accomplish each step. Think of the action plan as a map that you create to guide yourself through the decision. Since the DECIDES model has seven steps I must plan what I will do to accomplish each step. Once I have planned the activities I can do to accomplish each step I can go back and carry out my plans." (Instructor points out the difference between the section of planning and the section of carrying out the plans on the handout.) "With some decisions, planning the activities and carrying them out can occur at the same time as in my book example. For other decisions, the planning of activities occurs before they are carried out. I have already defined the problem so let's move on to the next step in the action plan, clarify values.

1.12 Clarify values

Values can be thought of as statements that we make about what we want to have in our choice. For example, in choosing a place to eat lunch I might say that I want a place that is close, I want a place that is not expensive, and I want a place that serves food quickly. For some decisions stating our values is easy. We simply have to think and some values quickly come to mind. However, for other decisions, such as choosing an occupation, we might have difficulty stating exactly what we want in an occupation. For these important decisions we need to spend some time planning activities that may help us find out what is important to us. In deciding on a book I would probably plan to just list what is important to have in my choice. Then I would carry out the action by listing what I want. First, I want a book that is short. Second, I want a book that is entertaining. Third, I want a detective story. Fourth, I want something that is easy to read.

1.13 Identify Alternatives

For most decisions there are usually more ways of identifying alternatives than we realize. If I had the time I might plan to do activities such as talk to people about books they've read, go to a public library, or go to my neighborhood bookstore. Since I only have ten minutes to make my choice my planning activity would be to consider the books on my bookshelf that I have not yet read. Here they are. (Show the students the five paperback books.)

1.14 Discover probable outcomes

Now I want to find out which of these five books satisfies my four values the best. This process is called discovering probable outcomes. To show you a method for doing this I am going to give you a handout which illustrates the procedure. Now, naturally, I am sure you know that I would never go through such an elaborate procedure just to choose a book to read during the evening. It would take far longer than five minutes to go through this procedure and I would not invest that time. But I am showing you the method with the book decision because there are some decisions that are so important that this procedure becomes very valuable. (Instructor gives students handout #2, the DECIDES grid for the book decision with the four values listed down the lefthand margin and the five book titles listed across the top. A grid is marked with 20 intersecting squares. The grid is filled in with a brief answer to the value questions posed.) Now you can see that I have examined each of the five alternative books and judged the extent to which they satisfy three of my four values. You can see that one of the books was simply too long, another one was fairly short but was on a heavy intellectual topic when what I wanted was something light. Another book was a detective book but it seemed like a very long detective book. I have not yet assessed whether any of these books are very easy to read because it would take the most time to find that out and I can judge the other characteristics very quickly. So I will delay finding out which books are easiest to read.

1.15 Eliminate alternatives systematically

To eliminate the alternatives, a convenient procedure is to scratch out first those alternatives which do not meet most of my values. Then I can spend time examining the remaining alternatives more carefully. So for example we can scratch out the book that was too long. We can also scratch out the book that is on a heavy intellectual topic. (INSTRUCTOR SETS ASIDE BOOKS AS THEY ARE ELIMINATED.) There are only three books remaining. All three are detective stories, but one is a long detective story. So we might as well scratch the long detective story. Now there are only two books remaining. Both books are short, light, and detective stories. Which one is easiest to read? Now I will recycle back to the step of Discovering Probable Outcomes and try to find out which one is the easiest to read. I will do so by taking each of the two stories and reading the first page and judge which one interests me the most.

I've read each of these first pages and this one seems the easiest to read so I've decided to choose this particular book.

1.16 Start Action

Now a decision has not really been made until you act on it. After I have gone through the other mental steps, I am ready to sit down and begin reading. (INSTRUCTOR PICKS UP SELECTED BOOK, BEGINS READING FOR TWO SECONDS.)

Now we have gone through this process very quickly with a very simple example in order to demonstrate how it works. Next I want to give you an opportunity to try using this model on a more complicated problem.

III GUIDED PRACTICE: CHOOSING A BANK

2.1 INTRODUCTION: PLANNING ACTIONS

We've taken a brief look at each step in the DECIDES method and we've seen how the method could be used in choosing a book. Now, let's put ourselves in another decision-making situation and try working through the example together using our DECIDES approach to arrive at a decision.

2.2 Imagine that my problem is this:

I want to open up a checking account within, say one week but I don't know which bank to use. I'm taking this choice fairly seriously because I'll be using the account a lot and I don't want to be bothered by inconveniences - things like having to wait in long lines or getting charged too much.

2.3 DEFINE THE PROBLEM

O.K. - Let's start with the first step. Can someone tell me how I might define my problem?

2.4 [pause ... if nessary prompt]

2.5 What needs to be done? ...

By when? ...

2.6 I want to choose a bank in which to open a checking account by (1 week ahead). Although for the purposes of this example, I really want to complete the decision in about 30 minutes.

2.7 ESTABLISH AN ACTION PLAN

The next step in our model is Establish an Action Plan. What we're doing when we establish an Action Plan is outlining our 7 steps and filling in the actions we plan to take to accomplish each step. Right now I would like you to work along with me in completing an Action Plan.

2.8 Pass out blank Action Plans, Bank Decision, Handout 3D

2.9 Please wait to write anything on these. I'll be asking you for suggestions as we go along and as we come up with ideas we'll all write them down.

Let's go ahead and fill in the problem definition we came up with under Step I.

2.10 CLARIFY VALUES

O.K. Now we can go ahead to the 3rd step which is Clarify Values. Can anyone suggest some ways I could go about clarifying what I want in a bank?

2.11 Write down appropriate suggestions such as talk to friends. Make sure class writes these down.

2.12 Remember that when we're writing up the Action Plan we're coming up with ways to clarify values, not with the values themselves.

2.13 One activity I have found to be helpful in clarifying my values is to gather some information on what is available. For example, if I don't know what services banks generally offer it will be difficult for me to figure out what I should look for. [If gathering information has already been suggested move on - if not - prompt a suggestion and write it down.]

2.14 IDENTIFY ALTERNATIVES

Good. My next step is Identify Alternatives. Can someone suggest how I might do this? [pause]

2.15 Remember that all we mean by Identify Alternatives is to come up with a list of possibilities that are worth looking into. [pause...if no suggestions] Well, I could simply look in the phone book and make a list of banks. I may or may not want to limit the list to banks which are close by - this depends upon my values and upon how much time I have to make my decision.

2.16 [write suggestion(s) down under Identify Alternatives.]

2.17 DISCOVER PROBABLE OUTCOMES

My next step is to Discover Probable Outcomes. Now this is basically a 2-part step. I want to find out what each of my alternatives has to offer. And, I want to compare the information I get about each alternative with my values. So in choosing a bank I'm going to have to start by gathering information about the banks on my list.

2.18 How would you suggest I do this?

2.19 [Write down appropriate suggestions. If none, suggest drive around to banks, talk to employees, and get brochures.]

2.20 Now, I still have to look at this information and see how each alternative satisfies my values. A very good way to do that when you're dealing with a large amount of information and perhaps a complex set of values is to set up a grid. You've seen an example of a grid in the first example, that of choosing a book to read. We'll go over it again but for now let's write this down as part of our method for Discovering Probable Outcomes [Write down: Make a grid]

2.21 ELIMINATE ALTERNATIVES SYSTEMATICALLY

The 6th step is to Eliminate Alternatives Systematically. How would I go about doing this?

2.22 [If necessary prompt or suggest...]

I will be using a grid in which I've filled in how well each of my values is satisfied by each bank. I'll cross out the bank which is the poorest in satisfying my values first.
Then I'll reconsider the remaining banks and keep crossing out the least desirable bank until there's only one left. This should be the bank which does the best job of satisfying my values.

2.23 [Write down: Cross out least desirable banks until I'm left with one.]

2.24 At this point I will have selected a bank - but my decision won't be finished until I've taken action on it. That's the last step in my action plan.

2.25 START ACTION

What could I write under this step?

[pause ... write down: Open an Account.]

2.26 RECYCLING THROUGH THE COMPLETED ACTION PLAN

Now we've got a completed Action Plan - but this is only the beginning of my decision-making process. My next task is to go back through each step and complete it.

2.27 I've already defined the problem and I've established my action plan. Since most of the remaining steps require more time and footwork, we'll have to use our imaginations a little.

2.28 Let's assume that I've gone through these activities listed under Clarify Values. I've discussed banks with a couple of friends and I came up with this list of values: (Instructor writes in action plan on blackboard.)

1) low monthly charges
2) little/no waiting in line
3) close location

Then, as part of my plan to Clarify Values, I picked up a couple of pamphlets from nearby banks.

After looking over these pamphlets I realized one other thing which is important to me - long hours. Now ideally I would like a bank which is open 24 hours - 7 days/wk, but since I've never heard of such a thing I decided that it was reasonable to expect some extra hours on Friday/Saturday. So I added this to my values list. [Write on Board as part of Values list: Late hours Friday or Saturday hours.]

All of these values are not equally important to me. Since poverty is a fact of life for me, low monthly charges is my most important value. So what I've done is to arrange these values in the order of most important first. This will make it a little more convenient for me when I get down to eliminating alternatives.

2.29 O.K. So I've got my list of values. What I need to do now is Identify Alternatives. My Action Plan suggests that I use the phone book to come up with a list of alternative banks. Let's say that I've done this and that I have a list of all the banks within about 4-5 miles of my home. For our purposes we'll just call them Bank A, Bank B, and so on [Write on board: Bank A, B, & C]

Now at this point I just have a list of banks. I still know almost nothing about the services they offer.

2.30 That's where Step V comes in. Discover Probable Outcomes. My Action Plan says that I should drive around to the bank on my list, talk to tellers, and pick up brochures. Let's make another giant stretch of the imagination and pretend that I've gone through these steps. I'm going to hand out some sample brochures of the type I might have actually gathered. [Pass out bank brochures, Handout Number 4D]. You'll notice that there are comments written in the margins of each bank brochure. These are comments I might have made of my impressions of the bank after visiting it. Please follow along with me and we'll use the information to fill out these values grids.

2.31 [Pass out bank values grids, Handout Number 5.]

2.32 Look at the values grid you have in front of you and notice that I've rephrased each of my 4 values in question form. Let's see if we can answer the first value question for Bank A. Look at the brochure for Bank A and find out what the monthly service charge is.

2.33 O.K. At Bank A it looks like you have to pay $2.00 per month. [Write in $2.00/mo.]

Now how does Bank A answer our 2nd value question, "How many people were standing in line?" According to the comments I made at the bottom of the brochure, 5 people were in line. [Write: No wait.] My 3rd value question is, "How close is the bank to my home?" Bank A is 2 miles from my home. [Write this in.] Now for the 4th value question, "What are the bank's hours on Friday and Saturday?" I'll put that the bank was open until 9:00 on Friday. [Write this in.]

2.34 Now Let's take a look at the brochure for Bank B.

1st value question: Bank B has no service charge but charges 5¢ for each check written.

2nd value question: 4 people in line

3rd value question: 3 miles away

4th value question: open until 9:00 p.m. Fridays and 9:00-12:00 on Saturdays

2.35 Now let's take a look at the brochure for Bank C.

1st value question: Bank C has no monthly service charge.

2nd value question: 14 people in line

3rd Value question: 3 miles from home

4th value question: open until 9:00 p.m. Friday

2.36 Now that I have my grid filled in I'm ready to Eliminate Alternatives Systematically. Chances are that you wouldn't choose quite the same values as the ones I have chosen and you probably wouldn't have put them in the same order of importance...So, of course your final choice might be different. Nevertheless please follow along with me and feel free to help me narrow down my choices.

2.37 O.K. - Looking at the grid, I can see that Bank A has the highest Service Charge of all 3 banks. This is my most important value. But before I eliminate it completely I'll see how well it fulfills my other values. As you can see, the only thing Bank A has to offer that the other banks don't, is closer location. For me, location is not as important as how much the service costs so I'm going to go ahead and cross out Bank A.

Now I'm comparing Bank B and Bank C. Bank B costs just a *little* bit more than Bank C but Bank C had a much longer wait in line, is no closer to my home, and has shorter weekend hours. The fact that Bank B costs just a little bit more than Bank C isn't enough to outweigh the shortcomings of Bank C. So I'll cross out Bank C. That leaves Bank B as my first choice.

2.38 Now I've made my choice but my decision won't really be completed until I walk into the bank and open an account.

IIID GUIDED PRACTICE FOR CHOOSING AN EXPLORATORY WORK EXPERIENCE

3.1 INTRODUCTION: PLANNING ACTIONS

Now you've seen how the DECIDES method could be used in choosing a book to read and in choosing a bank. In the last example you've really "walked through" the process with me and I hope you've gotten a fairly clear idea of how it works. In order to fully understand a process such as the DECIDES method, you actually have to use it by yourself. So I would like to spend our 45 minutes here helping you do just that. I have some forms and guidelines here to help you and we will be working through it together so it shouldn't be too difficult. First, let me pass out an explanation of the situation in which you will be making a decision.

3.2 Pass out copies of occupational experience situation, handout #6D.

3.3 Follow along while I read over this situation aloud and I'll explain how I'd like you to proceed.

3.4 Read hand-out aloud.

3.5 Now, as you remember from the previous example, the DECIDES method involves first coming up with an Action Plan and then carrying out all the activities you've assigned for yourself under each step--so I'm going to pass out a form to help you in making your Action Plans. Please don't write anything on it yet.

3.6 Pass out blank Action Plan occupational experience, handout #7D.

3.7 O.K.--Look at the form I've just passed out. You can see that each of the 7 steps in the DECIDES model are outlined and that space is left under each step for you to fill in the activities you plan to do to accomplish each step. You'll also notice that under each step are brief instructions to remind you what to do. Since we don't have much time, I'm going to have to limit the time spent on each step. I'd also like to have everyone working on the same step at the same time--that will make it easier for me to answer questions that come up.

3.8 Define the Problem

Let's start now by spending just a couple of minutes to define the problem.

3.9 After 30 seconds, walk among the students and assist anyone who is not writing or who looks confused.

3.10 Establish an Action Plan

O.K.--Step II is Establish an Action Plan. That's exactly what you're doing. You're planning what you're going to do to accomplish each step. You've already done the first step by defining the problem.

3.11 Clarify Values

Let's move on to Clarify Values. Be sure to plan activities you can do in this room and in a short period of time. Write down one or two things you can do to clarify your values. It's all right if they're very simple things. We'll spend 4 minutes on this step. Remember, you're planning the ways you might go about identifying what is important to have in a job experience.

3.12 After 30 seconds, walk around. If anyone needs help, find out what the problem is. Suggest 3 methods for Clarifying Values and ask him/her to think of others.

Instructor - make sure everyone has 1 method for clarifying values.

3.13 Identify Alternatives

O.K. - It's time to move on to Step IV which is Identify Alternatives. Think about how you could go about identifying the alternative job experience situations which are available to you. (Pause - then look for people needing assistance.)

3.14 If the class is having problems say "Well, you'll notice that at the side of the classroom is a table on which we've placed lists of job experiences which are open to you. So, in this case all you have to do is plan to get a list of alternative job-experiences and read it over." (If necessary, prompt class to write down something to this effect.) Now I don't want this exercise to require too much of your time or to get overly complicated. For that reason I would like you to write one more assignment down under Step IV Identify Alternatives. Please write down that you'll plan to circle those job experiences which sound the most appealing to you. Please circle at least 3 and no more than 5 job experiences. Of course, in making real decisions you may want to check out many more than 5 possibilities. Let's keep it down to 5 for this example so that everyone can finish by the end of the class.

3.15 Discover Probable Outcomes

Now we're ready to go on to Step V which is Discover Probable Outcomes. (Point to Step V on the blackboard.) Notice there are two instructions. Read them carefully and then fill in both parts. (Instructor assists people having trouble; prompts people if it is necessary.)

3.151 Where could you get information about the job experiences? Describe how you would do it.

3.152 How could you describe what you would do as an action. Remember the grid system for comparing alternatives and how it works.

3.153 Can you describe how you would set up a grid for your decision?

3.154 How do you know what information to look for?

3.16 Eliminate Alternatives Systematically

O.K. You should be ready to plan Step VI now, describing the activities you plan to do to eliminate alternatives systematically. What is the method you will follow? (Instructor assists people having trouble; prompts people if it is necessary.)

3.161 Can you describe how you would use the grid to eliminate alternatives?

3.162 Can you describe the first activity you would do in comparing alternatives; the second?

3.17 Now we are ready to plan Step VII, Start Action. What would be the first action you would take to act on your decision?

3.18 Carrying Out the Action Plan

Now that you have established an action plan it is time to carry out the activities that you've planned. Since you've already defined the problem, let's move directly to clarify values.

3.19 Clarify Values

I want you to carry out the activities that you've listed under Clarify Values in your action plan. I want you to identify and list 5 values that are important for you to have in a job experience. I will now pass out another DECIDES grid. (Instructor passes out DECIDES grid occupational experience handout 8D.) As you carry out your activities use your values grid to list your values, values questions, and alternatives.

3.20 Identify Alternatives

You should all be ready to carry out the activities you've listed in your action plan under Identify Alternatives. Remember you are to identify at least 3 but no more than 5 jobs to investigate. Notice where the occupational experience information is (Handout 9DI) in the room. O.K. Let's begin. (Instructor points to the location; instructor assists anyone having problems.)

3.21 Discover Probable Outcomes

Now you have your alternative job experiences. The next step to carry out is to discover probable outcomes. Use the information you obtain to answer your values question. (Instructor assists anyone having trouble.)

3.22 Eliminate Alternatives Systematically

Now that you have answered your value questions you are ready to carry out your plans for the next step, eliminating alternatives systematically. Study your grid and carry out the method that you listed in your action plan. Let's begin. (Instructor assists people having trouble.)

3.23 Starting Action

You are now at the last step in carrying out your action plan, starting action. A decision is never really made until you start action but since we don't have time for you to take action on your choice I'm going to suggest another alternative. For your final action I want each of you to assemble your handouts and give them to me individually. (Instructor goes to each student and collects the materials.)

3.24 Ending the Workshop

The instructor should congratulate people on completing the training program and answer any questions. If time permits, the instructor should direct a class discussion about the application of the DECIDES model in other decision situations that are important to the students.

DECIDES model

Planning

Steps	Example
1. Define the problem ((a) the desired accomplishment, (b) the time limit)	"I want to pick one book to read tonight and make my decision within 5 minutes."
2. Establish an action plan (the activities you expect to perform to reach your decision)	
To clarify values.	"I'll list what I want the book to do for me."
To identify alternatives.	"I'll consider unread books on my bookshelf."
To discover probable outcomes.	"I'll read the first page of certain books."
To eliminate alternatives systematically.	"I'll discard unsatisfactory books one by one until I find the best."
To start action	"I'll begin reading."

Carrying Out the Plans

3. Clarify values (hoped for benefits)	"I want a book that is (1) short (2) light and entertaining, (3) a detective story, and (4) easy to read."
4. Identify alternatives (list possible choices)	"I'll consider these 5 books."
5. Discover probable outcomes	"I'll make a grid to see which books satisfy my values." "I'll read the first page of certain books. Ugh, this one is boring."
6. Eliminate alternatives systematically	"I'll discard this book because it's too long."
7. Start action	"Now that I've found the best of all available books, I'll start reading."

DECIDES Grid / Book Decision

Alternatives

Value	Value Question	Curtain	Public Philosophy	Trinity	Sign of the Four	Friday the Rabbi Slept Late
Short	How long is the book?	376 p.	97 p.	530 p.	120 p.	153 p.
Entertaining	Does it appear entertaining?	yes	no	yes	yes	yes
Detective Story	Is the subject matter a detective story?	yes	no	no	yes	yes
Easy to Read	Does the book seem readable?					

BANK BROCHURES

- Bank A -

We at Bank A pride ourselves on providing fast and friendly service.

For your convenience we offer:

- a drive-up window
- a special "no-bounce" checking plan
- special weekend hours - we are open until 9:00 p.m. on Fridays and 9:00-12:00 on Saturdays
- unlimited checking - write as many checks as you want for just $2.00/mo.

COMMENTS: 5 people in line

1 mile from my home

- Bank B -

It is a pleasure to serve you with a checking account at Bank B. At Bank B you will find a special checking account to fit your personal needs. If you usually write less than 30 checks per month you will like our "economy plan". There is no monthly service charge -- you pay only 5¢ for each check you write.

We also offer long banking hours for your convenience. We are open until 9:00 p.m. Fridays and from 9:00-12:00 Saturday mornings.

COMMENTS: 4 people in line

3 miles from my home

- Bank C -

Come to a bank you can count on. We at Bank of C are experienced in the field of banking. We think you will like our special services, too. We provide free checking accounts with no minimum balance requirements. We know that time is important to you. That's why you'll find branches of Bank C all over California, and every branch is open until 9:00 p.m. on Friday nights.

COMMENTS: 14 people in line
3 miles from my home

BANK VALUES GRID

Values	Values in Question Form	BANK A	BANK B	BANK C
1) Low Charge for Service	1) How much does checking account cost?			
2) Quick Service	2) How many people were standing in line?			
3) Close Location	3) How close is bank to my home?			
4) Extra hours on Friday or Saturday	4) What are the bank's hours on Friday or Saturday?			

OCCUPATIONAL EXPERIENCE SITUATION

Your college has recently started a program called "Explorations in Occupations". As part of this program you will gain work experience by becoming an assistant to a local business, trade, or professional person. You will work 10 hours a week but will not be paid for the job experience. However, you will receive 6 units of credit. You are required to participate in this program but you can choose to enroll in any one of 20 different occupational experiences.

ACTION PLAN / OCCUPATIONAL EXPERIENCE

I. Define the problem.

Write out what must be accomplished and the time by which it must be done.

II. Establish an action plan.

Follow the instructions that are written for each of the steps.

III. Clarify values.

Write at least one activity you could do in this room that would help you identify what you want from an exploratory job experience.

IV. Identify alternatives.

Write at least one activity that you could do in the room to identify exploratory job experiences.

V. Discover probable outcomes.

Write one activity which you could do in the room that would provide you with information on each of the jobs you decide to investigate.

Describe a method you will use to determine how well each alternative job experience satisfies your values.

VI. Eliminate alternatives systematically.

Briefly describe the process you plan to use to eliminate certain alternatives and arrive at your best choice

VII. Start action.

Write down what you would do to take action on your choice.

DECIDES Grid / OCCUPATIONAL EXPERIENCE

		Alternatives				
Value	Value Question	1	2	3	4	5

OCCUPATIONAL EXPERIENCES

1. Bank Tellers Assistant
2. Department Store Sales Assistant
3. Furniture Repair and Upholstery Assistant
4. Watch Repairing Assistant
5. Commercial Artist's Assistant
6. Photographer's Assistant
7. Accounting Assistant
8. Librarian's Assistant
9. Postal Clerk Assistant
10. Telephone Operator Assistant
11. Veterinarians Assistant
12. Medical Lab Worker
13. Geology Assistant
14. Forestry Aid
15. Physical Therapy Assistant
16. Rehabilitation Counseling Assistant
17. Social Work Assistant
18. Teacher's Aid
19. Reporter's Assistant
20. Legal Assistant

POSITION: Bank Tellers Assistant

LOCATION: Five Miles from Your College

SUPERVISOR: Mr. W. Meyers, Head Teller

SUPERVISOR'S COMMENTS

Here is an opportunity for you to learn about banking by actually performing the duties of a bank teller. You will begin by observing me as I wait on customers. When you have become familiar with the basic procedures you will work next to me so that I can help you and answer your questions. I will assign you a supply of cash for which you will be responsible. You will also cash checks and make deposits for customers. I will do all I can to make this an enjoyable and worthwhile experience for you. If you decide that you would like to work as a bank teller, this experience may improve your chances of finding a job in the future.

POSITION: Department Store Sales Assistant

LOCATION: One-half Mile from Your College

SUPERVISOR: Ms. R. Turnman, Sales Manager

SUPERVISOR'S COMMENTS

I am looking for an ambitious young student to help me out in the stereo, radio and T.V. department of this store. Your job will include a number of different activities. For example, you will be waiting on customers, giving product demonstrations, answering questions, filling out order forms, and working in the stockroom. While you are learning each new task I will work closely with you. However we are very busy in this department and I will encourage you to work on your own whenever possible.

Waiting on customers requires that you be patient, good-natured, and energetic. If you do well at this job you will have a chance of being hired when your semester is finished.

POSITION: Furniture Repair and Upholstery Assistant

LOCATION: Three Miles from Your College

SUPERVISOR: Mr. S. Stevenson, Furniture Repair-Person

SUPERVISOR'S COMMENTS

Would you like to learn how to re-upholster and repair furniture? If your answer is yes, I welcome you to assist me in my shop. We will be working together as a team since my shop is a one-man operation. I specialize in repairing and renewing used and antique furniture. If you work with me you will learn a wide range of practical skills. You will learn how to repair broken furniture, various methods of antiquing and refinishing wood, and how to replace springs, padding, and fabric.

I get a great deal of satisfaction from renewing beautiful pieces of furniture. I sincerely hope that you will enjoy the work as much as I do. If you do well in your duties I will consider hiring you as my assistant when your semester is finished.

POSITION: Watch Repairing Assistant

LOCATION: One mile from Your College

SUPERVISOR: Ms. Marlow, Watch Repair-Person

SUPERVISOR'S COMMENTS

If you enjoy working with your hands and have an eye for detail, you may enjoy working as my assistant. Repairing watches requires patience and the ability to concentrate for long periods of time.

You will have an opportunity to learn how watches operate and how to clean, repair, and adjust watches. I will supervise you closely until you have mastered some basic skills. Then you will be given certain tasks to work on individually.

After you have learned and mastered some basic skills I will ask you to help train a second assistant. This job can be rewarding for someone who is well organized and enjoys learning new skills. I hope that person is you.

POSITION: Commercial Artist's Assistant

LOCATION: Six Miles from Your College

SUPERVISOR: Ms. T. Yaeger, Commercial Artist, Freelance

SUPERVISOR'S COMMENTS

I have been a freelance commercial artist for 15 years. I now look forward to guiding a young student who shows interest in the field of art and a fondness for creative self-expression. You need not have a background in art. I believe that art can benefit from fresh points of view and that one does not need to be trained in order to produce good, useable ideas.

If you choose to work with me I will give you small assignments with which to experiment. For example, I might ask you to come up with some color, subject, or design layouts which I would review and perhaps include in my work. I will also welcome your suggestions and opinions regarding the work I am doing. If you show talent and interest I will consider taking you on as a paid apprentice.

POSITION: Photographer's Assistant

LOCATION: Five Miles from Your College

SUPERVISOR: Ms. S. Woods, Photographer, Freelance

SUPERVISOR'S COMMENTS

I am looking for a student-volunteer who is willing to take photography as seriously as I do. Photography is a complex technical process as well as an art form, and in my work I dedicate myself to striving toward perfection. Therefore your work in my lab may not be easy. You will have to spend a good deal of time learning the fundamentals of camera techniques and developing processes. In fact, the majority of your time will be spent assisting me with the chemical and mechanical aspects of film development. However, this is a great opportunity for anyone who's interested in learning about photography firsthand!

POSITION: Accounting Assistant

LOCATION: One and one-half Miles from Your College

SUPERVISOR: Ms. W. Winslow, Accountant

SUPERVISOR'S COMMENTS

On behalf of this firm, I am pleased to offer you a work-experience in accounting. You will not need an extensive background in mathematics but self-discipline and the ability to concentrate will be necessary to perform your job.

I have personally developed a "mini-work-and-training" program for students from your college which I think you will find very helpful. We provide individualized instruction in simple accounting procedures and the chance to practice these procedures with supervision. Please keep in mind that we are constantly looking for bright new prospects for future employment and this experience may lead to a job when you have finished your coursework.

POSITION: Librarian's Assistant

LOCATION: Two Miles from Your College

SUPERVISOR: Mr. D. Hamilton, Librarian, Public Library

SUPERVISOR'S COMMENTS

My work at the public library is in the area of "reader-services". As my assistant, you will have duties similar to my own. As soon as you become familiar with our selection of materials and our cataloguing system, you will help individuals locate materials, lead tour groups through the library, and answer general questions. Because you will need to learn a great deal about how the library functions, this may be a very challenging job. If you are a self-disciplined worker, enjoy helping the public and perform your duties well, you will be offered paid employment at the close of your school term.

POSITION: Postal Clerk Assistant

LOCATION: One Mile from Your College

SUPERVISOR: Ms. M. Lewis, Postal Supervisor

SUPERVISOR'S COMMENTS

I am looking for a young man or woman to work as a student-helper at our post office branch. I have created a student position which I believe can give you an overall understanding of how a post office works. As one of our student-helpers you will spend each week working in a different area. For example, your first week will be spent in our mailroom. You will learn how to operate a mail sorting machine and some basic procedures for checking mail and getting it ready for delivery. Later in the semester you will work at tasks such as delivering mail and serving customers inside the post office. Each time you move to a new department I will explain whatever procedures you need to know and help you get started. For the most part, however, you will be working on your own.

POSITION: Telephone Operator Assistant

LOCATION: Five Miles from Your College

SUPERVISOR: Mr. F. Miller, Telephone Operator

SUPERVISOR'S COMMENTS

I am happy to announce that a student-assistant position is now being offered through the Telephone Company. If you choose to work with us in this small four-person office your primary duty will be to aid customers who want to make collect, person-to-person, and other operator-assisted calls. Since you will be using a switchboard to place these calls, we will teach you how to use the switchboard and give you plenty of time to practice on it.

The office we work in is small and I think you will find your co-workers to be helpful and friendly. I plan to work alongside you so that I can give you guidance and help with the work.

POSITION: Veterinarians Assistant

LOCATION: Five Miles from Your College

SUPERVISOR: Ms. A. McCullough, Veterinarian, Private Practice

SUPERVISOR'S COMMENTS

Any student who desires to assist me with my practice will gain an overall experience in the varied aspects of animal care. Your duties will include making preparations for surgery, assisting with application of anesthetics, assisting me in routine health care of animals, as well as providing food and water to boarded animals. My practice is extremely busy and I will not have time for extensive explanations or instructions. There is much to learn and you must be alert, observant, and willing to work hard.

POSITION: Medical Lab Worker

LOCATION: Two Miles from Your College

SUPERVISOR: Mr. M. Smyth, Laboratory Worker, Medical Center

SUPERVISOR'S COMMENTS

I am pleased to invite you to participate in our new "observe and experience" program for beginning instruction in such areas as

1) Sterilization & care of lab equipment
2) Blood collection techniques
3) Use of the microscope
4) Slide preparation

You will be provided with both formal (written and verbal) instruction and the opportunity to observe members of our staff in their work. You will then be assigned a series of very specific practice assignments. During the final weeks of your term here, I will give you actual laboratory tests to do independently. There is much to be learned about lab work but I think you will find the work interesting and not overly difficult. I personally will do all in my power to make this a truly educational experience for you.

POSITION: Geology Assistant

LOCATION: Nine Miles from Your College

SUPERVISOR: Ms. L. Milbrook, Geologist

SUPERVISOR'S COMMENTS

I am pleased to offer you a chance to assist me in my work as a geologist. At present I am studying a fossil type which was discovered for the first time only two years ago. If you choose to become involved in this work, you will be collecting, sifting through, and analyzing samples of rock in an effort to locate specimens of this fossil type. Although much of the work is tedious and requires patience, you will be aiding me in making what I hope to be some very exciting new discoveries. Most of our time will be spent working together outdoors and during this time I would enjoy discussing various aspects of the project with you. When your school term is finished I will consider putting you on the payroll as my assistant.

POSITION: Forestry Aid
LOCATION: Twelve Miles from Your College
SUPERVISOR: Mr. L. Hancock

SUPERVISOR'S COMMENTS

I am pleased to report that the State Forestry Department has authorized a student participation program in our area. If you enroll in this program you will be involved in such activities as taking soil samples, checking pollution levels in streams, and reporting on the condition of hiking trails and campsites. You will be given instruction in the necessary procedures but for the most part you will be working by yourself with limited supervision.

If you show interest and competence in the job, you may be offered paid employment as a Forestry Aid when your semester is over.

POSITION: Physical Therapy Assistant
LOCATION: Three Miles from Your College
SUPERVISOR: Mr. F. McIntyre, Hospital Physical Therapist

SUPERVISOR'S COMMENTS

If you join us in the Physical Therapy Department your role will be to help me give treatment to patients with muscle, nerve, joint, and bone diseases. Each week I will demonstrate a new technique and you will be given supervised practice until you have mastered it. Once you have learned a technique you will work with patients independently. You will have regular meetings with me, at the beginning and end of each day.to get work assignments, review your daily progress, and to solve any problems that may occur. Your duties may involve such things as teaching crippled children in the use and care of braces, helping patients do exercises, or using ultrasound machines to give patients deep muscle massage. This job is important and carries with it a great deal of responsibility. I hope that your performance will reflect this attitude.

POSITION: Rehabilitation Counseling Assistant

LOCATION: Two Miles from Your College

SUPERVISOR: Ms. B. Johnson, County Rehabilitation Counselor

SUPERVISOR'S COMMENTS

Have you ever wondered whether anyone takes time to counsel and help people who are physically, mentally, or socially handicapped? Well, that's what my job is all about. As a rehabilitation counselor, I work with doctors, occupational agencies, families, and the handicapped persons themselves to develop treatment programs. My goal is to help these people learn whatever skills they need to make their lives as satisfying as possible. If you choose to work with me you will have many unusual and rewarding experiences. For example you may sit in on meetings with legal and medical specialists, and handicapped persons, and their families. Later on you will have the chance to help me lead group counseling sessions and train individuals in personal and job-related self-help skills. If you are sensitive and enjoy people I think you will find this to be a very rewarding job experience.

POSITION: Social Work Assistant

LOCATION: Five Miles from Your College

SUPERVISOR: Mr. R. Princeton, Social Worker, Family Services Agency

SUPERVISOR'S COMMENTS

I would like to invite you to gain a first-hand experience in the field of social work. If you decide to participate in this "job-experience" you will be accompanying me when I go out into the community to visit my clients. You will observe and take notes in such situations as interviews with prospective foster parents and foster children, and case reviews with probation officers from the city Youth Authority. Your responsibilities will increase as you gain a better understanding of the job and get to know some of the clients. Eventually, I will have you assist me in writing up case study reports and will have you pay visits to clients' homes in order to check on their progress and aid them in filling out financial assistance forms. I look forward to helping you in this experience and hope that you will find it both interesting and rewarding!

POSITION: Teacher's Aid

LOCATION: Three Miles from Your College

SUPERVISOR: Ms. L. Fenton, 2nd grade teacher

SUPERVISOR'S COMMENTS

I am seeking a student-volunteer who will bring to this job an attitude of dedication and enthusiasm. As the teacher of this 2nd grade class, I will provide you with whatever guidance and advice is necessary to perform your duties. However, I will expect you to be responsible for realizing what needs to be done in the classroom and to work independently without constant supervision. Your time will be spent in such activities as leading reading groups, tutoring children individually, making learning center materials, and supervising children on the playground. In addition, I will occasionally ask you to help me in planning class activities.

I am looking forward to working with you so that we may provide the children with the best education possible.

POSITION: Reporter's Assistant

LOCATION: Eight Miles from Your College

SUPERVISOR: Ms. N. Fulton, Newspaper Reporter

SUPERVISOR'S COMMENTS

If you enjoy challenge and day-to-day change, you will enjoy helping me report the news. As my assistant you will be expected to accompany me on assignments and to observe how I work. After you learn some basic procedures you will have the chance to cover and write up some stories with me. You will also be able to work independently on some stories which are of special interest to you.

You must be enthusiastic, willing to meet people, and willing to work hard in this job, but the challenge and excitement should make all your efforts worthwhile!

POSITION: Legal Assistant

LOCATION: Four Miles from Your College

SUPERVISOR: Mr. S. Layton, Lawyer, Legal Aid Office

SUPERVISOR'S COMMENTS

I sincerely hope that you will be able to spend some time with our legal advising staff. We are a team of lawyers pooling our special talents to provide the general public with legal advice in such matters as tenant-landlord difficulties, consumer rights, and discriminatory employment practices. We have created a position for you which we think will give you a good overall view of legal services to the public. Your main duty will be to conduct an initial interview with each client upon their first visit to the office. At this time you will collect some basic details and background information on their legal problem and fill out forms giving a brief over-view of the program.

This work requires that you follow directions well and pay close attention to detail, but it can be very rewarding. I will do my best to make this a valuable and pleasant experience for you.

APPENDIX D

CURRICULUM FOR TEACHING RATIONAL INTERVIEWING SKILLS

(Control Treatment)

INSTRUCTOR'S GUIDE TO
EFFECTIVE INTERVIEWING TECHNIQUES

Introduction and Rationale

(INSTRUCTOR SHOULD INTRODUCE HIMSELF AND SHOULD ASK STUDENTS TO INTRODUCE THEMSELVES.)

Today we are going to discuss how to conduct oneself in a positive and effective manner during a job interview. The job interview is one of the major criteria used by employers to determine which applicant will be hired. Your performance during an interview can make the critical difference of being offered a position or not. Consequently, it is wise to develop and improve your interviewing skills.

You want to use the interview to your best advantage. It is the time to convince the interviewer that you would be the best person for the job. It is crucial to present yourself as a competent, hardworking, dependable and likeable person.

Interview Rules and First Example

Each job requires different qualifications and each interview is unique. Yet it is helpful to look at some basic rules and be prepared to apply them to any specific interview. I am going to hand out a list of 7 rules so that you can refer to them as we discuss interview situations.

(AT THIS POINT THE INSTRUCTOR SHOULD PASS OUT ONE COPY OF THE "21" HANDOUT TO EACH MEMBER OF THE CLASS.)

In order to illustrate the application of these rules I am going to run through a brief and simplified example. Suppose that Bruce, a male college student wants a gas station attendant job for the summer. He looked in the paper and found an ad that said, "Gas station attendant. Dependable person wanted. Duties include pumping gas, changing flats, keeping the station clean. No mechanical experience necessary. Hours, 9-5, Mon.-Fri., Salary $150/week."

Now let's look at the 7 rules and see how Bruce would apply them during the interview to try and get this job.

1. Know the job's requirements and expectations and how your qualifications fulfill them.

Bruce determined from the ad that he had the necessary qualifications since no specific training or educational requirements were listed. Also, from past knowledge and from speaking to several friends who had worked in gas stations, he knew that he did not need mechanical experience but that any experience would be viewed positively by most gas station managers. Therefore, he was prepared to tell the manager that he had pumped gas many times, fixed many flat tires and worked on cars with friends of his since he was 14. He was also prepared to work 9 to 5 and ready to do any cleaning tasks required.

2. Present yourself appropriately

Bruce called the manager and told her he was very interested in speaking to her about the job. They set up an appointment and he made sure to arrive 10 minutes early with his social security card and the names and phone numbers of past employers.

He wore a clean flannel shirt and khaki pants. (A business suit would be inappropriately over-dressed for this particular interview.) When he saw the manager he addressed her by name, introduced himself and gave her a strong hand-shake. She appeared to be in a bad mood and preoccupied with other thoughts. Nevertheless, he maintained a cheerful demeanor and conveyed to her that he was very interested in working there, making money and working hard.

3. Be prepared to answer commonly asked questions.

The manager was not very talkative and although he wanted to appear enthusiastic, he allowed her to ask the questions initially. Eventually she did ask him if he knew how to re-charge a battery. Bruce said, "Yes." Luckily he had asked one of his friends to prep him on this procedure the night before. She didn't ask him to explain the procedure but immediately shifted gears into a more personal area. "Come on" she started, "you are a college boy. You don't want to work here. You college kids don't like getting your hands dirty, do you?" Bruce politely but firmly told her that he liked working with cars and grease didn't bother him in the least. He also invited her to call any of his previous employers in landscaping or fence building to inquire about how hard he worked.

4. Be prepared to ask pertinent questions.

During a few of the quiet moments while she was yawning and looking out the window, Bruce asked her questions about how many cars were serviced a day and how she thought they could increase business. She didn't know. He also asked her if her wheels were out of alignment since he had noticed some uneven wear on her front tires. She perked up a little and said, "Oh, yeah?"

Bruce made sure to reconfirm what duties she expected him to perform and the hours and salary.

5. Be honest and sincere but prudent.

After she returned from getting a beer she hit him with, "Come on. You don't know anything about cars, do you?" Bruce answered, "I'm not an ace mechanic, that's for sure, but I've worked on many cars before and I learn quickly." "You really want this job badly, don't you kid?" she said. He responded that he wanted this job because the station was the closest to his home but if he didn't get this one he would have to work at one further out. Although Bruce felt like telling her that she seemed as dull and abrasive as his former boss at the fence company, he refrained. Of course that kind of honesty would only insure continued unemployment.

6. Know how to end the interview on a positive note.

He could tell by the manager's continual glances out the window that she was nearing termination of the interview. But he waited until she got up, started walking toward the door and mumbled for him to call her tomorrow morning. Bruce got up and shook her hand. He thanked her for the interview, that he enjoyed meeting her and that she would not regret hiring him. He jokingly told her to be sure to check her alignment and ended by saying he'd call her in the morning.

7. Know how to do follow-up.

The next morning Bruce called the manager as arranged. She told him that he could start next week. He did and worked there for 3 months until school started again. It was not the best job he ever had but it put money in his pocket.

Now that I have given you a brief example of how someone applying for a job as a gas station attendant might go about preparing for an interview and how he or she might act during the interview, let's work through another example together.

(INSTRUCTOR HANDS OUT PACKET OF JOB DESCRIPTIONS AND TELLS STUDENTS THAT THEY CONTAIN 20 SAMPLE ADVERTISEMENTS AND THAT THEY WILL BE GOING OVER A FEW. BE SURE TO ASK THEM NOT TO WRITE ON THE PACKET.)

Guided Practice

Interviewing for a job as a bank teller's assistant

Let's suppose that you are going to interview for a job as a bank teller's assistant. Please turn to the page with "Bank teller's assistant" on it.

Let's assume that you found out about the job through a notice placed on the board at the Student Placement Center.

According to our 7 rules, the first thing we should be concerned with is, "Know the job's requirements and expectations and how your qualifications fulfill them."

How might we research the nature of this job? (Sample answers; speak to bank tellers, look up the job in the library, D.O.T.) O.K.

Based on the duties listed on this card, do you think Mr. Meyers would be interested in whether or not you were artistic?...in whether or not you had accounting classes in school?...in whether or not you enjoyed working with people? Should you mention that you are an avowed communist and dislike capitalism?

O.K. I think we are getting the point across. We want to stress the qualities we have that are appropriate for this particular job.

Can anyone think of some more qualities that a person suitable for this particular job might possess? (Sample answers: friendly, organized, etc.)

Our 2nd rule is, "Present yourself appropriately." How might a person dress for an interview for a job as a bank teller's assistant? (Sample answers: suit & tie for males, dress or a pants suit for females.)

When you walk in the door to meet Mr. Meyer, what should be the first think you do? (Sample answers: Smile, introduce yourself, shake hands.)

O.K. Let's look at the 3rd rule. "Be prepared to answer commonly asked questions." Can anyone give me a question that Mr. Meyer might ask? (Sample; Why would you like to work here?)

O.K. Can anyone give us a good answer for that? (Sample answer: "I'd like a job where I can work with people and also use my computational skills. I am also interested in a future career in banking.")

(INSTRUCTOR NOTE: ALTERNATE HAVING DIFFERENT PEOPLE ASK A QUESTION AND THEN ANOTHER ANSWER. CALL ON PEOPLE IF YOU NEED TO. THEY SHOULD COME UP WITH SOME EXAMPLES OF BOTH JOB-RELATED AND PERSONAL QUESTIONS.)

O.K. Now that we've practiced answering some questions that Mr. Meyer might ask, let's think about the 4th rule.

"Be prepared to ask pertinent questions." Why don't we discuss this rule just as we did the previous one? Who will give us an example of a question he might ask? (Sample questions: What will my salary be? my duties? Will there be a training period?) (ALTERNATE PEOPLE WHO QUESTION AND PEOPLE WHO ANSWER AGAIN. WITH ALL SAMPLE QUESTIONS ON THIS AND THE ABOVE RULE, BE PREPARED TO DEMONSTRATE HOW QUESTIONS AND ANSWERS CAN BE RE-WORDED TO BE MORE TACTFUL, ETC.)

O.K. Now we are ready to discuss the 5th rule.

"Be honest and sincere but prudent."

How would you respond, for example, if Mr. Meyer asked you what your weaknesses are? (Sample answer: "I am impatient with people who are lazy.") If Mr. Meyer asked you if you liked your last boss and you disliked him, what should you say? (Sample answer: "Mr. X and I didn't always see eye to eye on some matters but I always put forth my best effort for him regardless.")

The point is to turn questions designed to put you at a disadvantage to your advantage. Let's go on to the 6th rule.

"Know how to end the interview on a positive note." What should you do if Mr. Meyer indicates that the interview is over? (Sample answer: "Thank him courteously for his time and re-emphasize your strong interest in the job.) What else should you do? (Sample: Make sure you know what the follow-up arrangements are.) What should you say if Mr. Meyer says he's sorry but can't use you? (Sample answer: Tell him to please keep you in mind if another opening arises and ask him to refer you to any other employment possibilities.)

Now we have come to the 7th rule.

"Know how to follow up on the interview."

What should a letter to Mr. Meyer contain? (Sample answers: "Thanks for the interview, comments on how informative or enjoyable the interview was, reiterate your interest in the job, mention any further follow-up arrangements.)

Final Practice

We have looked at 2 job interview examples. Now let's do some actual role-playing of an interview situation. I want to give each of you a chance to role play.

I will read a description of a job advertisement and then ask two of you to role play the parts of the interviewer and interviewee. Assume the interviewee has just arrived for the interview and begin from there.

Also, while the interview is in progress I ask the rest of you to evaluate the positive and negative aspects of the the interviewee's performance in relation to each rule. Please make your comments about each interview on this evaluation form that I am handing out.

(INSTRUCTOR HANDS OUT 2 EVALUATION FORMS (31) TO EACH STUDENT.)

(INSTRUCTOR ALSO HANDS OUT "25 COMMONLY ASKED QUESTIONS" TO EACH STUDENT AND TELLS THEM THAT THEY MAY REFER TO THESE WHILE DOING THE INTERVIEW.)

Please don't be nervous or worried about your performance. This is just an exercise that should be helpful and fun. Now let me read the first description.

Who will volunteer for the first interview? (INSTRUCTOR APPOINT 2 PEOPLE IF NECESSARY.)

(INSTRUCTOR: AFTER INTERVIEW, ALLOW DISCUSSION PERIOD OF ABOUT 5 MINUTES. THEN REPEAT PROCESS AND BE SURE TO COLLECT EVALUATIONS AFTER EACH INTERVIEW.)

Final Comment: Our time is up. I want to thank you all for your participation. I hope that this experience has been a helpful one to you and I wish you all the best luck in getting the next job you apply for.

Goodbye.

CONDUCTING AN EFFECTIVE INTERVIEW

1. Know the job's requirements and expectations and how your qualifications fulfill them.
    - Research the nature of the job through job description, other people in the field, books or publications, etc.
    - Know how your qualifications will fulfill the job and be prepared to present relevant background concisely.
    - Be prepared to emphasize your strengths as they relate to this particular job.
2. Present yourself appropriately
    - Arrive on time.
    - Be appropriately dressed and groomed.
    - Introduce yourself in a confident, friendly and relaxed but enthusiastic way.
    - Have resume, SS#, etc. neatly arranged and immediately retrievable
    - Be attentive and keep good eye contact.
3. Be prepared to answer commonly asked questions.
    - Be familiar with common questions relating to the job or occupation.
    - Be prepared to answer common personal questions.
4. Be prepared to ask pertinent questions.
    - Ask questions that demonstrate your interest and knowledge about the job.
    - Ask questions regarding your position, duties and salary.
5. Be honest and sincere but prudent.
    - Present yourself in an honest but favorable light.
    - Word weaknesses to your advantage.

CONDUCTING AN EFFECTIVE INTERVIEW (Cont'd)

   - Don't mention personal problems.
   - Don't talk about how badly you need the job.
   - Present opinions frankly but avoid criticizing others.
   - Don't criticize former employers or co-workers.

6. Know how to end the interview on a positive note.
   - Be sensative to when the interview is nearing completion.
   - Allow interviewer to terminate the interview.
   - Reemphasize strong interest in the job and iterate follow-up arrangements.
   - Conclude politely and positively.
   - Thank interviewer.
   - If interviewer tells you he won't hire you, request leads for other employment, ask him to keep you in mind if new openings occur.
7. Know how to do follow-up.
   - Write a follow-up letter thanking person for the interview.
   - Call on the phone to inquire about interviewer's decision.
   - Honor decision deadlines.

ROLE WORKING EVALUATION SHEET

Please observe the interview and comment on what you believe to be the positive and negative aspects of the interviewee's performance under each rule.

1. Know the job's requirements and expectations and how your qualifications fulfill them.

   (a) What was done well? Comment.

   (b) What was poorly presented or omitted? Comment.

2. Present yourself appropriately.

   (a) What was done well? Comment.

   (b) What was poorly presented or omitted? Comment.

3. Be prepared to answer commonly asked questions.

   (a) What was done well? Comment.

   (b) What was poorly presented or omitted? Comment.

4. Be prepared to ask pertinent questions.
   (a) What was done well? Comment.

   (b) What was poorly presented or omitted? Comment.

5. Be honest and sincere but prudent.
   (a) What was done well? Comment.

   (b) What was poorly presented or omitted? Comment.

6. Know how to end the interview on a positive note.
   (a) What was done well? Comment.

   (b) What was poorly presented or omitted? Comment.

7. Know how to do follow-up.
   (a) What was done well? Comment.

   (b) What was poorly presented or omitted? Comment.

TWENTY-FIVE COMMONLY ASKED QUESTIONS

1. What was your rank in your college graduating class?
2. What makes you think you're qualified to work for this company?
3. What have you been doing since you left your last job?
4. What have you read recently?
5. Tell me why you were fired from your last job?
6. Do you like working with figures more than words?
7. Why did you major in canoe paddling at North Dakota State?
8. Why don't you go back to graduate school? (Why did you go to grad school?)
9. What is it you really want?
10. Draw me a table of organization where you last worked and tell me where you fit.
11. How many people did you supervise on your last job?
12. By the way, what are your salary requirements?
13. Name me three people in public life you admire most.
14. I'm going to describe four kinds of jobs: Which would you want?
15. How much money did you ever account for?
16. How many people have you fired and how did you do it?
17. Show me some samples of your writing.
18. Did you ever put your job on the line for something you believed in?
19. What men and women influenced your life most and why?
20. What do you want from a job: money, power, relevance, etc.?
21. Describe several problems you've had in your occupational life and how you solved them.
22. What do you mean by "social problem-solving," "urban planning," "community development" techniques, "working with people," "citizen participation," "community outreach," [and a thousand other buzz expressions].

23. Where do you see yourself in five years?

24. Would you rather do a job, design it, evaluate it, or manage others doing it?

25. When can you start work?

APPENDIX E

Administrative Procedures

Appendix E

Administrative Procedures

The main administrative procedures enacted during the course of this experiment included:

1. Preparation for the experiment
2. Arrangement of school participation
    a. Class selection, room sites, and subjects
    b. Administration of the Career Decision Simulation (CDS)
3. Data collection procedures

Preparation for the Experiment (September-October, 1977)

1. Decision-Making Questionnaires (DMQ) were reproduced, collated, and distributed to members of the research team. Copies of the College Board's Career Decision-Making Skills Assessment Exercise (CDMSAE) were obtained.

2. Copies of both experimental and control curricula were developed, collated, and distributed to the research team. Curriculum materials (books, handouts, tapes, and recorders) were obtained.

3. Final administrative procedures on the production of the CDS were completed by early October. Several alternatives were researched in terms of graphics and manufacture. The decision was made to employ the Medical School graphics department at Stanford. The decision to construct a wooden model of the CDS was made and implemented. The staff consulted with several local data processing representatives throughout this process.

School Participation, Class and Subject Selection, Room Sites, and Administration of the CDS (September-December, 1977)

Planning arrangements with the schools started in September. The following accounts are descriptions of the process for each school.

MOORPARK (September-November, 1977)

1. Several contacts by phone and mail were made to Dr. William Bendat, Dean of the Moorpark Student Personnel department in September. Coordination involved determining which classes could be used, setting up a schedule for each part of the project, locating room sites for the CDS, and recruiting local administrators. Seven classes were arranged.

2. Ongoing communication with the school was necessary to reconfirm schedules, to brief teachers, and to determine the feasibility of using specific rooms. Several changes of the room furniture had to be rearranged to accommodate the CDS. It was also necessary to arrange surveillance of the room while not being used. One faculty member was found who agreed to do this at each site.

3. In order to coordinate scheduling of classes, several grids, calenders and charts were constructed to insure that each class proceeded through the project in the proper sequence. A schedule was also constructed for the research team instructors to coordinate their schedules and to be sure each research instructor taught alternate experimental and control groups.

4. Two team instructors went to Moorpark (October 10-13). They transported all materials by automobile. Reconfirmation of class schedules was made on site, and then each sequence of the project for all classes was carried out.

5. Lessons were tape recorded to control for consistent treatment. Following both parts, all materials were collected and stored.

6. Before the curricula were presented, thirteen randomization lists of combinations of the numbers 1 and 2 were generated using a table of random numbers for each possible class site. Class rosters were obtained and transcribed onto the lists to insure randomization of subject assignment to either experimental or control groups. Next a coin was tossed to determine which group would receive either the experimental or control treatment. The coin was tossed again to determine which group would use which room.

7. Following the completion of the DMQ, the treatments and the CDMSAE, all materials were packed and shipped back to Stanford. Before the team left Moorpark, administrators of the CDS were hired and trained.

8. Through advertisements and consultation with local representatives seven administrators were hired. Administrators were trained by (1) taking the CDS as a subject, (2) receiving orientation, and (3) doing a guided practice. They also had to be briefed on paperwork, technical operations, how to deal with possible difficulties and how to arrange payment to subjects.

9. Each subject engaging in the CDS was to be paid $3-6, depending on his or her performance. Lists of all eligible subjects, identifying data, and amount paid had to be collected. Subjects had to sign the receipt form after payment.

10. Five hundred dollars was given to the school and deposited at the school bookstore. Vouchers were made, countersigned by the administrator of the CDS and school dean. The amount accrued by each subject could then be redeemed at the bookstore through a voucher system. A total of $370 was paid to subjects. The remainder of the money was returned to Stanford project funds.

11. Administrators were given the names and phone numbers of eligible subjects and called them to set up appointments. At Moorpark, two subjects could be scheduled simultaneously because of the size of the room. Grids and schedules were set up and filled in with appointments. After a subject completed the CDS, he was paid, signed his name, and was checked off the list. Subjects that missed appointments were called and rescheduled.

12. All subjects completed the CDS by November. A research team member kept in contact with administrators by phone. Following completion by all subjects, he returned to Moorpark, gathered all equipment and data, and transported them back to Stanford.

13. This concluded the project at Moorpark and it was agreed that progress of the project would be reported to them. School staff and subjects were issued The Guide to Career Decision-Making Skills as a feedback device upon completion of all phases.

DE ANZA (October-December, 1977)

1. Coordination was provided by Carol Howard, Counselor at De Anza. Instructors of seven counseling and guidance classes agreed to participate in the project. Each teacher was briefed about the study.

2. To facilitate scheduling of classes, grids, calenders and charts were constructed to insure that each class proceeded through the project in the proper sequence. A schedule for the research team instructors was constructed and coordinated (October 3-31). It was arranged for each instructor to teach alternate experimental and control groups.

3. Each teacher at De Anza was contacted for final reconfirmation of scheduled classes. Team instructors traveled individually to De Anza.

4. Before the curricula were presented, the randomization lists were brought out and transcribed from class rosters. Class rosters were obtained from each teacher. As at Moorpark, coins were tossed to decide which groups would receive which treatment and which group would move to the extra room for the instruction.

5. Through advertisement and representative consultation, two administrators were hired and trained to administer the CES. Both administrators stayed until all subjects were completed. One administrator was trained in more detail in order to supervise the second administrator.

6. Payment to subjects followed the same procedure as at Moorpark. Lists of all eligible subjects, identifying data, and amounts to be paid were constructed. Subjects had to sign the receipt form upon payment.

7. The sum of five hundred dollars was transferred to De Anza College and locked in a safe at the Registrar's Office. The administrator checked out $40 a day to use for payment to subjects.

8. Administrators were given the names and phone numbers of all eligible subjects. They first visited each class and signed up those who were eligible to participate in the CDS. Those who were absent or who were unable to make a commitment at that time were later called at home. Grids and schedules were constructed and filled in with appointments. Appointment cards were made and given out to each subject. After subjects completed the CDS, they were paid and checked off the list.

9. Several meetings were held with the teachers at De Anza and they were given the questionnaires and the treatment curriculum. Questions were answered and a summary of the research project was presented. Additionally the treatment curriculum was administered to volunteer De Anza counselors as a courtesy.

FOOTHILL (October-December, 1977)

1. Contact by phone and letter was made to Ruth Morales, a Counselor at the College. She helped to organize subject participation. Six counseling and guidance classes were available. In two classes students were required to participate, but the four other teachers did not hold mandatory classes and announced to their students that participation was voluntary only. Thus, some classes were very small.

2. Grids, calendars, and charts were constructed to schedule students. Students were notified by Ruth Morales and research instructors of the sequence of the project. The administration of the DMQ, the teaching of the curricula, and the administration of the CDMSAE took place between October 24 and November 10, 1977.

3. Before each teaching session, the randomization lists were used for transcribing class rosters. Class rosters were provided by Ruth Morales. A main conference room was made available for curricula training. As at Moorpark and De Anza, coins were tossed to determine which group would receive which treatment and which group would move to the conference room for the teaching.

4. The administrator of the CDS was one of the people who had administrated at De Anza. One local administrator was contracted and hired to assist.

5. Payment to subjects followed the same procedure as at Moorpark and De Anza.

6. This concluded the project at Foothill. Feedback for the subjects was disseminated in January.